THE ABEL TASMAN VILLAGE
ASSOCIATION LTD

TRANSPORT AND ACCESSIBILITY IMPACT ASSESSMENT FOR PROPOSED SENIORS HOUSING DEVELOPMENT, 222 WALDRON ROAD & 138-140 CAMPBELL HILL ROAD, CHESTER HILL

JUNE 2024
(AMENDED SEPTEMBER 2025)

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1 INTRODUCTION

1.1 Colston Budd Rogers and Kafes Pty Ltd has been commissioned by The Abel Tasman Village Association Ltd to prepare a transport and accessibility impact assessment for the state significant development application (SSDA) for the proposed seniors housing development at 222 Waldron Road and 138-140 Campbell Hill Road, Chester Hill. The site location is shown on Figure 1.

1.2 The site is occupied by the existing Abel Tasman Village which provides a 30 bed nursing home plus 46 dwellings. It includes the existing vacant lot at 138-140 Campbell Hill Road which was previously occupied by a petrol station. It is proposed to demolish the existing buildings and construct a new seniors housing development comprising a 120 bed residential aged care facility and 101 independent living units plus a retail component of 159m^2. Vehicular access is proposed from Waldron Road.

1.3 The Planning Secretary's Environmental Assessment Requirements for the development include traffic, transport and accessibility matters. Table 1.1 includes the SEARs and the relevant sections of the report in which they are addressed.

Table 1.1: SEARs

SEARs requirement	Section of report
Traffic, Transport and Accessibility • *Provide a transport and accessibility impact assessment, which includes:* ○ *an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing*	Chapters 3, 6

performance levels of nearby intersections.	
○ *details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances, and an explanation of how residents will access facilities and services), parking arrangements and rates (including bicycle and end of trip facilities), drop-off/pick-up-zones(s) and bus bays (if applicable), and provisions for servicing and loading/unloading.*	Chapters 2, 4, 5, Appendix A
○ *analysis of the impacts of the proposed development (including justification for the methodology used), including predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (including industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments. The key intersections to be modelled/examined include (but are not limited to):* ○ *Christina Road/ Waldron Road;* ○ *Campbell Hill Road/ Waldron Road;* ○ *Chester Hill Road/ Waldren Road*	Chapter 6
○ *measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards.*	Chapter 6

○ *proposals to promote sustainable travel choices for employees, residents, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high quality end-of-trip facilities, and implementing a Green Travel Plan.*	Chapters 3, 8
• *Provide a Construction Traffic Management Plan detailing predicted construction vehicle movements, routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing traffic, pedestrian and bicycle networks would be managed and mitigated.*	Chapter 7

1.4 This report assesses the traffic and transport implications of the proposed development, including addressing the SEARs, through the following chapters:

- Chapter 2 - proposed development;
- Chapter 3 - public and active transport;
- Chapter 4 - parking;
- Chapter 5 - access, servicing and internal layout;
- Chapter 6 - traffic effects;
- Chapter 7 - construction traffic management plan; and

- Chapter 8 - green travel plan.

2 PROPOSED DEVELOPMENT

2.1 The site is occupied by the existing Abel Tasman Village which provides a 30 bed nursing home plus 46 dwellings. It includes the existing vacant lot at 138-140 Campbell Hill Road which was previously occupied by a petrol station. It is proposed to demolish the existing buildings and construct a new seniors housing development comprising a 120 bed residential aged care facility and 101 independent living units plus a retail component of 159m^2. Vehicular access is proposed from Waldron Road.

3 PUBLIC AND ACTIVE TRANSPORT

Public Transport Services

3.1 The site is close to Chester Hill Railway Station. Chester Hill is on the T3 Bankstown (Liverpool to City) line.

3.2 Services through Chester Hill on the T3 line are every 30 minutes in each direction, with more frequent services during peak periods.

3.3 Local bus services are provided by Transdev. Services operate along Waldron Road and Campbell Hill Road and there are stops on these roads, close to the site. Services provide a link to Chester Hill station and include:

- route 911: Auburn to Bankstown via Georges Hall;
- route 916: Chester Hill to Guildford; and
- route M91: Hurstville to Parramatta via Padstow, Bankstown and Chester Hill.

Active Transport

3.4 There are footpaths on both sides of Waldron Road and Campbell Hill Road, connecting to and from the bus stops and Chester Hill Station.

3.5 There is an on-road cycle route east of the site on Waldron Road, Chester Hill Road and Bent Street. Bicycle spaces will be provided in the development for employees, along with shower and change facilities.

3.6 The proposed development will increase residential and employment densities close to public transport services. The proposed development is therefore consistent with government objectives and the planning principles of:

(a) improving accessibility to employment and services by public transport;

(b) improving the choice of transport and reducing dependence solely on cars for travel purposes;

(c) moderating growth in the demand for travel and the distances travelled, especially by car; and

(d) support the efficient and viable operation of public transport services.

4 PARKING

Car Parking

4.1 Clauses 107 and 108 of the Housing SEPP indicates that the development can not be refused on parking grounds if the following minimum parking is provided:

- one space per 15 beds for the nursing home;
- one space per two employees on duty at one time;
- one space for an ambulance; and
- 0.5 spaces per bedroom for the independent living units.

4.2 120 beds are proposed in the nursing home, with a maximum of 36 employees. 16 one bedroom, 79 two bedroom and six three bedroom independent living units are proposed. The development can therefore not be refused on parking grounds if at least 122 parking spaces are provided, plus a space for an ambulance.

4.3 The Canterbury-Bankstown DCP 2023 includes a parking rate of one space per 40m^2 for retail uses. With 159m^2 proposed, four retail spaces would be required.

4.4 The total parking requirement is therefore 126 spaces. 136 parking spaces (including 42 spaces in the future Building C car park which will be subject to a future application) are proposed which satisfies the provisions of the SEPP and DCP. Provision for an ambulance is included at the front of the facility.

4.5 15 spaces will be provided as accessible spaces in Buildings A, B and E, representing more than 15 per cent of the parking in these buildings, in accordance with the SEPP.

Bicycle Parking

4.6 The development is not expected to generate significant demand for travel by bicycles. Six bicycle parking spaces will be provided in the development, for employees and visitors. Employees will also have access to shower and change facilities.

5 ACCESS, SERVICING AND INTERNAL LAYOUT

5.1 Vehicular access is proposed to be provided from Waldron Road in two locations. The two driveways will replace the existing four driveways to the site. The eastern driveway will be in the location of one of the existing site driveways, and will provide access to the nursing home (building B) and buildings A and E. The western driveway will provide access to building C. The two existing site driveways on Campbell Hill Road will be removed.

5.2 Access driveways will provide maximum grades of 1:20 for six metres inside the property line, in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking), AS 2890.1. Grades and transitions will be provided suitable for cars and service vehicles, to prevent vehicles scraping.

5.3 Loading areas will be provided in a number of locations within the development, suitable for small to medium rigid trucks used by the applicant for garbage collection and deliveries. These vehicles will be up to eight metres long, with a reduced height clearance requirement of 2.5 metres. Service vehicles will be able to enter and exit the site in a forward direction. Vehicle swept paths are provided in Appendix A.

5.4 Within the basement parking areas, spaces will be a minimum of 5.4 metres long by 2.5 metres wide, with 5.8 metre wide circulation aisles. Accessible parking spaces will be 2.4 metres wide, with a 2.4 metre wide adjacent area for wheelchairs. Columns will be set back 750mm from the front of spaces. Height clearance in the car park will be 2.2 metres generally, with 2.5 metres above disabled parking spaces. These dimensions are considered appropriate, being in accordance with AS 2890.1 and AS 2890.6.

5.5 Accessible parking spaces are proposed to be provided in accordance with Schedule 4 of the Housing SEPP (Part 1, Section 4). These spaces are shown on the architect's plans.

5.6 Following DA approval, access arrangements, parking layout, servicing and vehicle swept paths should be reviewed and confirmed for compliance certification.

6 TRAFFIC EFFECTS

Road Network

6.1 The site is at 222 Waldron Road and 138-140 Campbell Hill Road, on the northern side of the road, as shown in Figure 1. It is occupied by the existing Abel Tasman Village which provides a 30 bed nursing home plus 46 dwellings. It includes the existing vacant lot at 138-140 Campbell Hill Road which was previously occupied by a petrol station. The Chester Hill town centre is east of the site and the Bankstown railway line is to the south. There are playing fields west of the site and industrial development further west. Other surrounding development, including to the north, is generally residential.

6.2 Waldron Road provides an east-west connection through Chester Hill. It provides for one traffic lane and one parking lane in each direction, clear of intersections. Through the town centre it provides a 40 kilometre per hour speed limit. There is a three tonne load limit on Waldron Road west of Campbell Hill Road.

6.3 Adjacent to the site, Waldron Road intersects Campbell Hill Road at an intersection controlled by a roundabout. Campbell Hill Road provides access to residential areas north of the town centre. South of Waldron Road it is a dead end at the railway line. Campbell Hill Road provides for one traffic lane and one parking lane in each direction, clear of intersections. There is a pedestrian crossing in Campbell Hill Road, north of Waldron Road.

6.4 East of the site, Waldron Road intersects Chester Hill Road at a signalised t-intersection. Chester Hill Road connects to the south, across the railway line.

6.5 West of the site, Waldron Road intersects Miller Road/Christina Road at a two lane roundabout. These roads provide access to industrial and residential areas.

Traffic Flows

6.6 Traffic generated by the proposed development will have its greatest effects during weekday morning and afternoon peak periods, when it combines with other traffic on the surrounding road network. In order to gauge traffic conditions, turning movement counts have been undertaken at these times (1 December 2023) at the following intersections:

- Waldron Road/Christina Road/Miller Road;
- Waldron Road/Campbell Hill Road; and
- Waldron Road/Chester Hill Road.

6.7 The results of the surveys are shown in Figures 2 and 3, and summarized in Table 6.1.

Table 6.1: Existing two-way (sum of both directions) peak hour traffic flows

Road	Location	AM peak hour	PM peak hour
Waldron Road	East of Chester Hill Road	1,215	1,314
	East of Campbell Hill Road	1,527	1,673
	East of Miller Road	1,370	1,473
Christina Road	West of Miller Road	1,827	2,253
Miller Road	North of Waldron Road	894	909
	South of Waldron Road	1,047	1,497
Campbell Hill Road	North of Waldron Road	340	347
Chester Hill Road	South of Waldron Road	926	1,089

6.8 Table 6.1 shows that Waldron Road carried some 1,200 to 1,700 vehicles per hour two-way during the surveyed morning and afternoon peak hours. Christina Road carried some 1,850 to 2,250 vehicles per hour two-way. Miller Road and Chester Hill Road carried some 900 to 1,500 vehicles per hour two-way and Campbell Hill Road carried some 350 vehicles per hour two-way.

Intersection Operations

6.9 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The surveyed intersections have been analysed using the SIDRA computer program for the traffic flows shown in Figures 2 and 3.

6.10 SIDRA simulates the operations of intersections to provide a number of performance measures. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle.

6.11 Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

6.12 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

6.13 The analysis found that the signalized intersection of Waldron Road with Chester Hill Road operates with average delays of less than 30 seconds per vehicle during peak periods. This represents level of service C, a satisfactory level of service.

6.14 The roundabout at the intersection of Waldron Road with Miller Road and Chrstina Road operates with average delays for all movements of less than 40 seconds per vehicle during peak periods. This represents level of service C, a satisfactory level of service.

6.15 The roundabout at the intersection of Waldron Road and Campbell Hill Road operates with average delays for all movements of less than 25 seconds per vehicle during peak periods. This represents level of service B, a good level of service.

Traffic Generation of Proposed Residential Care Facility

6.16 Transport for NSW surveys of residential care facilities in Sydney found traffic generation rates of 0.18 vehicles per hour per bed during a weekday afternoon peak hours. The proposed development, with an increase of 145 dwellings/beds compared to today, would therefore result in an additional traffic generation of some 25 vehicles per hour two-way during weekday peak hours. This is a low increase, equivalent to an average of only one vehicle every two to three minutes.

6.17 The proposed retail facilities are small and not expected to generate significant external traffic.

Traffic Effects

6.18 The additional traffic has been assigned to the surrounding road network. Existing peak hour traffic flows plus the additional development traffic are shown in Figures 2 and 3, and summarised on Table 6.2.

Table 6.2: Existing peak hour traffic flows plus additional development traffic

Road	Location	AM peak hour		PM peak hour	
		Existing	Plus development	Existing	Plus development
Waldron Road	East of Chester Hill Road	1,215	+5	1,314	+5
	East of Campbell Hill Road	1,527	+10	1,673	+10
	East of Miller Road	1,370	+15	1,473	+15
Christina Road	West of Miller Road	1,827	+15	2,253	+15
Miller Road	North of Waldron Road	894	-	909	-
	South of Waldron Road	1,047	-	1,497	-
Campbell Hill Road	North of Waldron Road	340	-	347	-
Chester Hill Road	South of Waldron Road	926	+5	1,089	+5

6.19 Table 6.2 shows that traffic increases on Waldron Road, Christina Road and Chester Hill Road would be some five to 15 vehicles per hour two-way at peak times.

6.20 The Waldron Road intersections previously analysed have been reanalysed with SIDRA for the additional development traffic flows shown on Figures 2 and 3. The analysis found that the intersections would continue to operate at their existing satisfactory or better levels of service (levels of service B/C), with similar average delays per vehicle. SIDRA output summaries are provided in Appendix B.

6.21 Therefore, the road network will be able to cater for the traffic from the proposed development.

7 CONSTRUCTION TRAFFIC MANAGEMENT PLAN

7.1 The construction methodology, process and staging will be finalised when a builder has been appointed. The CTMP will be finalised prior to the commencement of work, taking into account relevant consent conditions.

Overall Principles for Traffic Management

7.2 The overall principles for traffic management during construction of the development are:

- provide a convenient and appropriate environment for pedestrians;
- minimise effects on pedestrian movements and amenity;
- manage and control vehicular movements to and from the site;
- maintain traffic capacity at intersections and mid-block around the site;
- maintain access to other properties adjacent to the site;
- restrict vehicle activity to designated truck routes through the area;
- maintain safety for workers;
- provide appropriate access to the site for construction traffic; and
- manage and control vehicle activity in the vicinity of the site.

7.3 At this stage, it is anticipated that on-street works zones will be required on Waldron Road and Campbell Hill Road, adjacent to the site. A separate application will be made to Canterbury Bankstown Council at the appropriate time.

Hours of Work

7.4 Subject to conditions of consent, work associated with construction activities will generally be carried out between the following hours:

- Monday to Friday: 7:00 am to 6:00 pm;
- Saturday: 7:00 am to 4:00 pm; and
- Sunday/public holidays: no work.

7.5 All work including demolition, excavation and construction work will be carried out in accordance with the conditions of consent and the Australian Standard AS 2436.10 Guide to Noise Control and Construction, Maintenance and Demolition Sites. The site contractor will be responsible to instruct and control all workers and sub-contractors regarding the hours of work. Any work outside these times would be subject to a separate application to Canterbury Bankstown Council. The control of hours of operation avoids truck movements during the early hours of the morning, before 7:00 am and in the evening, after 6:00 pm.

Truck Routes

7.6 During construction, trucks transporting material to the site will be accommodated on the site and in the adjacent on-street works zones. Vehicular access to and from the site will be provided from Waldron Road and Campbell Hill Road, via the existing access points.

7.7 General traffic movements on surrounding roads and continued access to adjacent properties will be maintained during construction. Truck movements will be restricted to designated truck routes and will be confined to the main road network through the area.

7.8 Trucks would travel to and from the site along the following designated routes, as shown in Figure 4:

- approach routes:
  - Hector Street, Waldron Road;
  - Miller Road, Waldron Road;
  - Christina Road, Waldron Road;

- departure routes:
  - Waldron Road, Hector Street;
  - Waldron Road, Miller Road; and
  - Waldron Road, Christina Road.

7.9 The designated truck routes to and from the site are proposed to restrict truck traffic to the main road network through the area. Truck drivers will be inducted and advised of the designated truck routes to and from the site. The approach and departure route of demolition, excavation and construction vehicles are considered appropriate.

Construction Site Operation

7.10 During construction, all construction vehicles and materials handling, including delivery of construction material, will be accommodated within an on-site construction compound/materials handling area and in the on-street works zones

adjacent to the site. Construction hoarding and containment fencing will be erected around the perimeter of the site compound, with scaffolding and overhead protection provided where required.

7.11 Trucks will enter and exit the site in a forward direction. The construction access driveways will provide appropriate sight lines for construction vehicle access, with regards to the number, type and size of construction vehicles. Warning signs will be erected adjacent to the driveways and on pedestrian paths adjacent to the construction activity, in accordance with SafeWork NSW requirements.

Traffic and Parking Effects

7.12 As noted above, a builder has not yet been appointed. The construction traffic management plan will be refined once a builder has been appointed and the detailed construction methodology and staging are confirmed. However, based on other projects of this scale, the number of vehicles generated during the various stages of construction is likely to be up to some 30 to 40 construction vehicles per day two-way at peak times. Construction vehicles would include rigid trucks and articulated vehicles.

7.13 This is low traffic generation, equivalent to an average of five trucks per hour over a nine – 11 hour working day. The road network will readily cater for these vehicles. Vehicles will access the site from Waldron Road, via the existing driveways. Construction vehicles will enter and exit in a forward direction.

7.14 Construction worker numbers will vary over the construction period, but would generally be some 10 to 30 workers. Construction employees will be able to park on the site and in Waldron Road, adjacent to the site.

7.15 Construction workers would generally travel to and from the facility outside the on-road peak hours (starting earlier and with finish times staggered over the day, depending on the work being undertaken). Their effects during the busiest times for the surrounding road network would therefore not be significant.

Construction Traffic Management Plan

7.16 The traffic management plan for construction of the proposed development is presented below. It includes the principles of traffic management and is subject to SafeWork NSW requirements, as well as survey and final design.

7.17 The builder/contractor, once appointed, will be responsible for preparation of a detailed construction traffic management plan, to incorporate these principles and refine the construction methodology, staging and timing.

7.18 Site operations, signage, construction fencing/hoarding, overhead protection, safety barriers and line marking detail will be provided in accordance with Australian Standards and the TfNSW Manual for Traffic Control at Work Sites. A copy of the traffic management plan will be kept on-site at all times. Signage details, traffic management, the control of pedestrians in the vicinity of the site, and the control of trucks to and from the site will be the responsibility of the site contractor.

7.19 The construction traffic management plan is shown in Figure 5 and includes the following:

- all construction activity to be provided for on-site or within on-street work zones;

- the construction activity to be coordinated with the construction of other developments in the vicinity of the site where required;

- construction vehicle access to be provided from Waldron Road, via the existing site driveways;

- construction hoarding/fencing and scaffolding to be erected around the construction site, with overhead protection provided where required;

- construction work to be restricted to the approved hours of construction. Any work outside the approved hours would be subject to prior approval from Canterbury Bankstown Council;

- the movement of trucks on and off the site to be managed and controlled in accordance with a safe work method statement and appropriate traffic control plans;

- construction vehicles will include rigid trucks, concrete trucks and semi-trailers;

- truck movements to and from the site to be restricted to the designated truck routes;

- trucks to enter and exit the site in a forward direction;

- access to other adjacent properties in the vicinity of the site to be maintained at all times during construction;

- construction access driveways to be managed and controlled by qualified traffic controllers where required;

- the management of the site works will be the responsibility of the site contractor/builder;

- pedestrian activity across the site access driveways will be managed and controlled by traffic controllers where required;

- warning signs to be utilised in the vicinity of the site;

- pedestrian arrangements, construction activity and erection of safety fencing will be provided in accordance with SafeWork NSW requirements;

- the construction site manager/builder to be responsible for the management of the site, the movement of trucks on and off the site, signage detail, traffic management and the control of pedestrians/cyclists; and

- construction signage to be provided in accordance with Australian Standards and the TfNSW Manual for Traffic Control at Work Sites.

8 GREEN TRAVEL PLAN

8.1 A framework for a green travel plan has been developed to identify measures to promote sustainable transport options and to encourage travel modes away from single occupant private vehicles. It adopts a transport management approach and provides a site-specific management strategy for delivering long term behavioural change and sustainable travel patterns. It outlines a range of actions and initiatives to increase travel modes such as walking, cycling, public transport, car sharing and car pooling, as well as influencing behaviours that lead to better organisational outcomes, improving environmental impacts, improving viability of public transport services and creating healthier lifestyles, while reducing adverse transport impacts on the surrounding road network. The framework ensures that employees and visitors feel safe, secure and well informed about travel to and from the site.

8.2 This framework will be used to develop and prepare the green travel plan which will be used by employers, employees and visitors travelling to and from the site. Government authorities and planning guidelines are placing increasing emphasis on the need to reduce the number vehicle trips and travel distances by car, while encouraging greater use of alternative means of non car-based travel, resulting in reduced environmental impact.

Benefits of the Green Travel Plan

8.3 The provision of a green travel plan creates a number of social, economic, environmental and health benefits for employers and employees at the site. These include:

- promoting the use of sustainable transport modes by increasing awareness of public transport routes and facilities;

- the provision of car parking reflects the site's proximity to public transport and the ability to provide alternative travel modes for employees and visitors by encouraging non car based travel;

- reducing the growth in greenhouse gas emissions will result in significant benefits for the environment as a result of reducing car based travel. The reduction in greenhouse gases will also result in improved health benefits;

- encouraging healthier travel options for employees, such as walking and cycling;

- promoting the use of sustainable transport modes can provide a more affordable means of transport and provide travel cost savings;

- reducing travel time and travel costs;

- convenient transport access and high quality employment facilities creates an attractive workplace for employers and employees, resulting in greater productivity, improved health and wellbeing; and

- implementing a green travel plan can reduce traffic impacts and traffic congestion on the surrounding road network by reducing the number of vehicles travelling to and from the site, resulting in improved intersection operation.

Objectives of the Green Travel Plan

8.4 The green travel plan will comprise a package of measures designed to address the specific travel needs of the site. The main objectives of the plan include:

- reducing dependence on private vehicles and encourage the use of more sustainable travel modes;
- reducing the number of car trips to and from the site;
- providing facilities for employees and visitors to commute by sustainable transport modes, including walking and cycling;
- promoting public transport and car sharing;
- advising new employees of the available public transport options at the site and within the surrounding area;
- reduce the environmental footprint of the development;
- reducing congestion in the local area; and
- promoting the health benefits of active transport and create a more active social culture.

Framework Green Travel Plan

8.5 The plan will be refined in consultation with council, TfNSW, public transport operators and other stakeholders. It will include the following action strategies:

- travel planning and demand management;
- encouraging the use of public transport;
- encouraging active transport (cycling and walking);
- controlling parking provision; and
- influencing travel behavior.

8.6 Measures and action strategies to achieve the objectives of the plan include:

- Travel Planning and Demand Management

  - develop a Workplace Travel Plan. The travel plan will provide public transport information, maps, car share vehicle locations and public transport timetable;

  - management and promotion of travel plan by rewarding and encouraging those who travel actively to help develop a healthy, active culture and meet travel mode targets;

  - allow employees the flexibility to commute outside of peak periods to reduce traffic impacts and travel time, by developing flexible working hours where possible;

- provide the option for employees to work remotely (work-from-home policies), where possible, to reduce the number of vehicles on the road and encourage teleconferencing rather than travelling to and from meetings;

o Encourage the use of Public Transport

- encourage the use of public transport by providing information and resources, through the development of a Workplace Travel Plan;

- work with public transport providers to improve services;

- promote the provision of travel passes and car share discounts to employees;

- tenants to promote public transport as the first preference for business travel. This should be supported by employees having access to travel passes, such as Opal Cards;

o Encouraging Active Transport (Cycling and Walking)

- implement a range of initiatives to reward and encourage employees to walk and cycle to work and to develop a healthy, active culture and meet travel targets;

- promote active transport by undertaking a Green Travel Plan event each year, such as group cycling events, NSW bicycle week and walking groups;

- provide convenient bicycle parking and appropriate end of trip facilities for employees and visitors who walk or cycle to work. As noted above, bicycle parking spaces and end of trip facilities are proposed to be provided;

- provision of sufficient end of trip facilities such as showers, change rooms and lockers to maximise pedestrian activity;

o Controlling Parking Provision

- promote the use of car share facilities, such as GoGet, for employees and visitors;

- introduce an employee car pool register to inform employees of the travel characteristics of other employees with similar travel destinations;

o Influencing Travel Behaviour

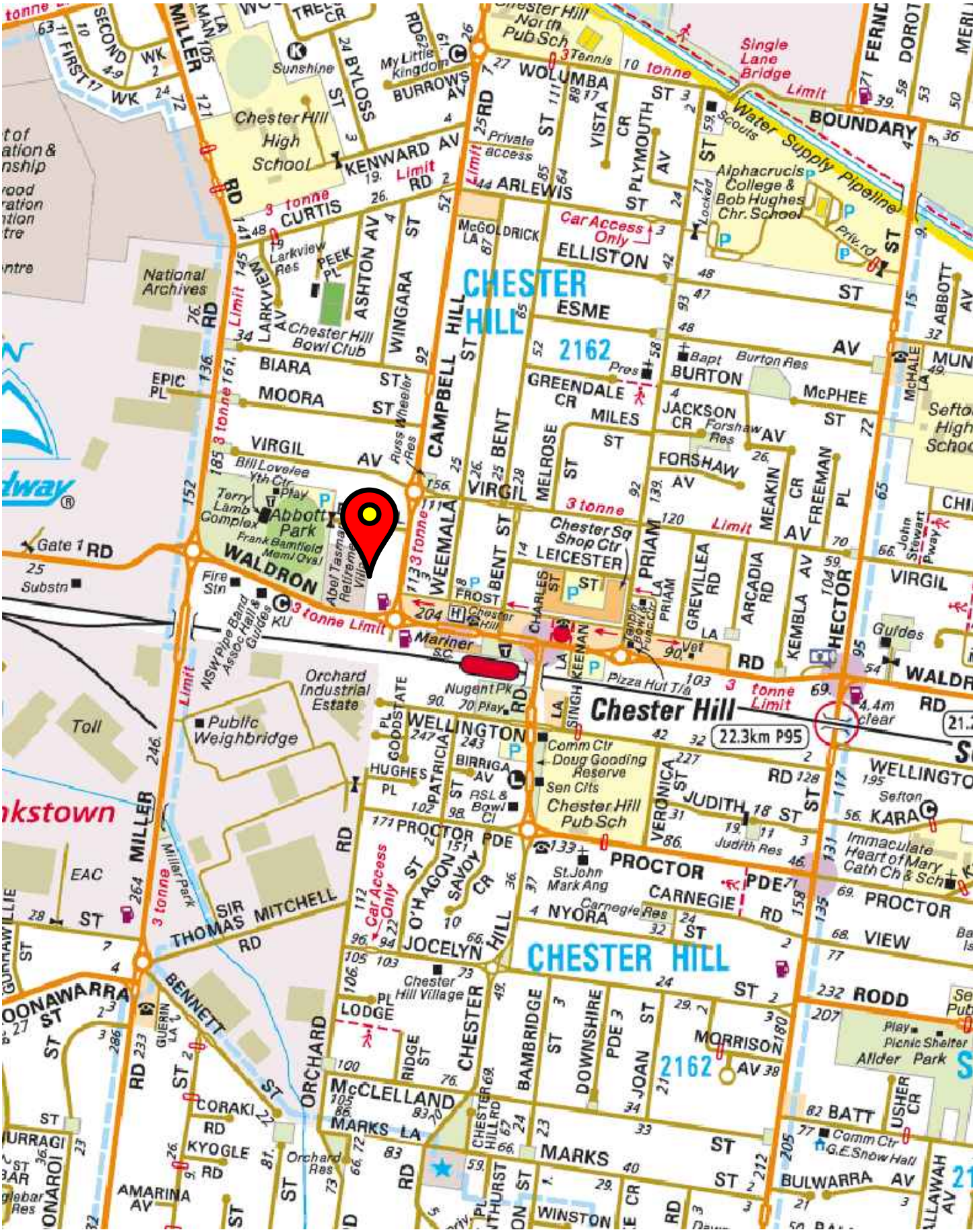
- provision of sustainable travel packs to employees. This introduces employees to the travel plan and provides information on walking and cycling routes, and travel by bus. Contacts of the travel plan coordinator for the travel plan will also be provided. This will include the provision of a Workplace Travel Plan/Travel Access Guide.

8.7 The green travel plan will assist in delivering sustainable transport objectives by considering the means available for reducing dependence solely on cars for travel

purposes, encouraging the use of public transport and supporting the efficient and viable operation of public transport services.

Monitoring and Reviewing the Framework Travel Plan

8.8 The green travel plan will be monitored to ensure that it is meeting its objectives and having the intended impact on car use and transport choices for employees and visitors. The plan will be reviewed annually through travel mode surveys (employee questionnaire surveys) and traffic and parking surveys. The plan will be updated to reflect changing circumstances and to identify which initiatives are having an impact or need to be modified to ensure appropriate travel behaviour.



Location Plan

Colston Budd Rogers & Kafes Pty Ltd

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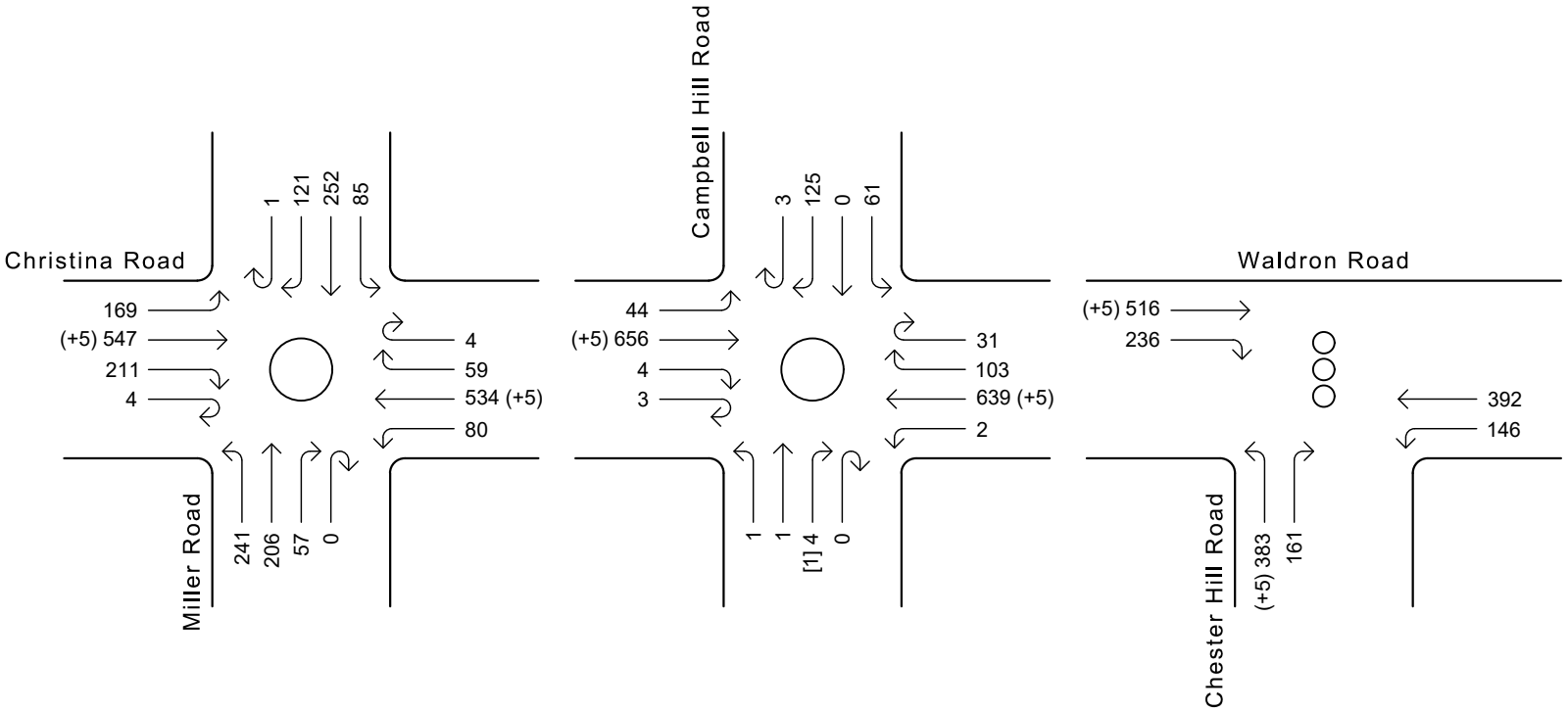
Figure 1



Existing weekday morning peak hour traffic flows plus development traffic

Figure 2

Colston Budd Rogers & Kafes Pty Ltd

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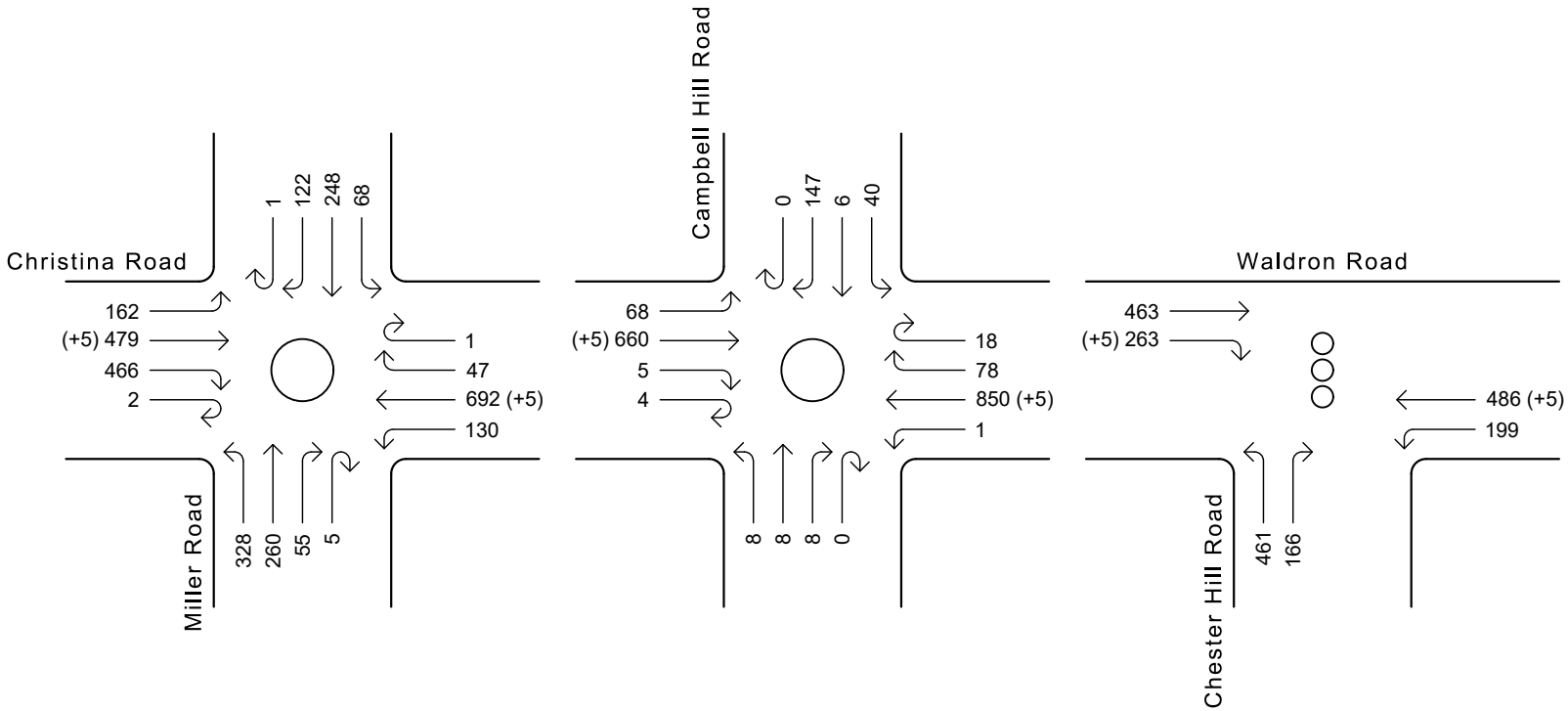

Existing weekday afternoon peak hour traffic flows plus development traffic

Figure 3

Colston Budd Rogers & Kafes Pty Ltd

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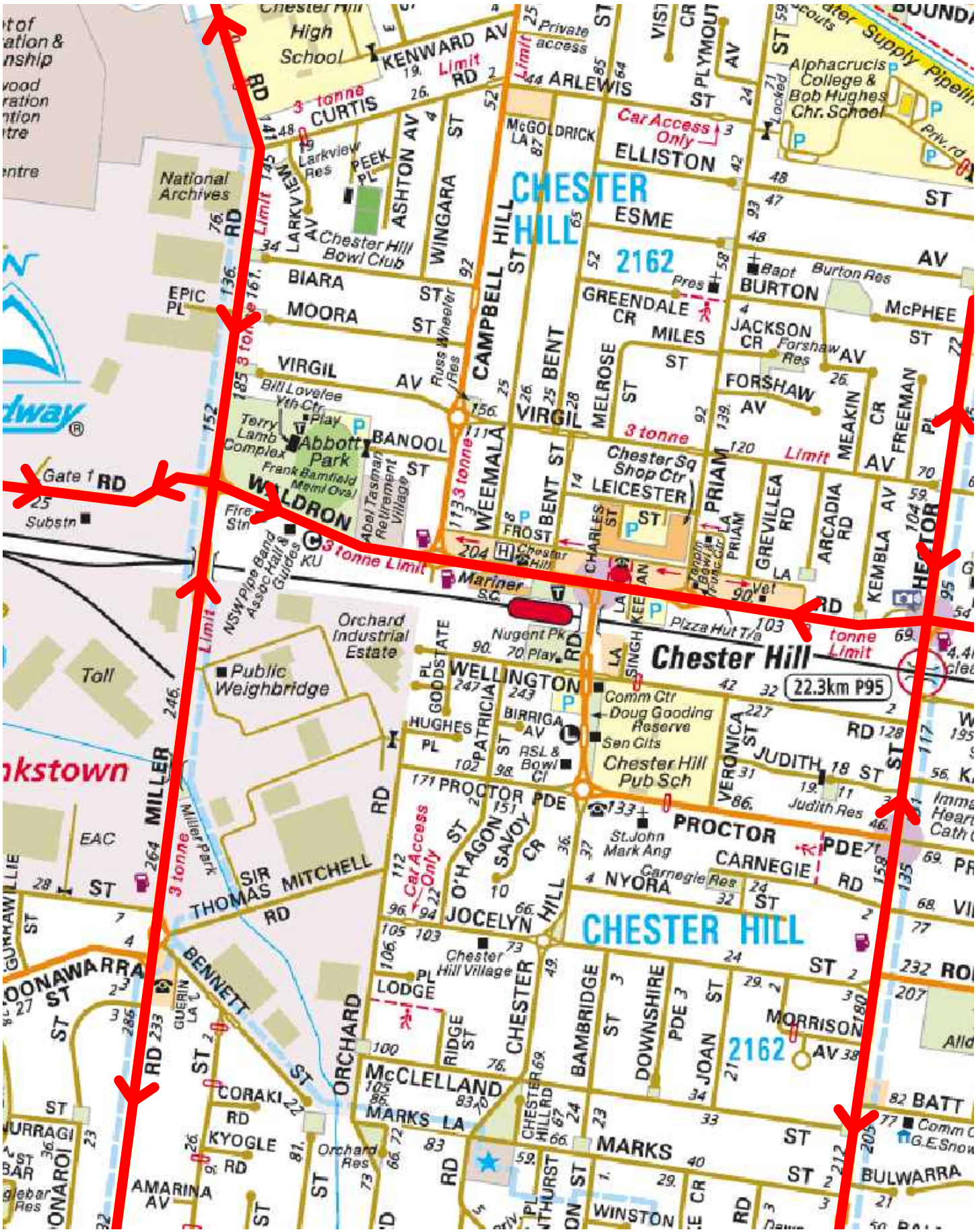


Truck Routes

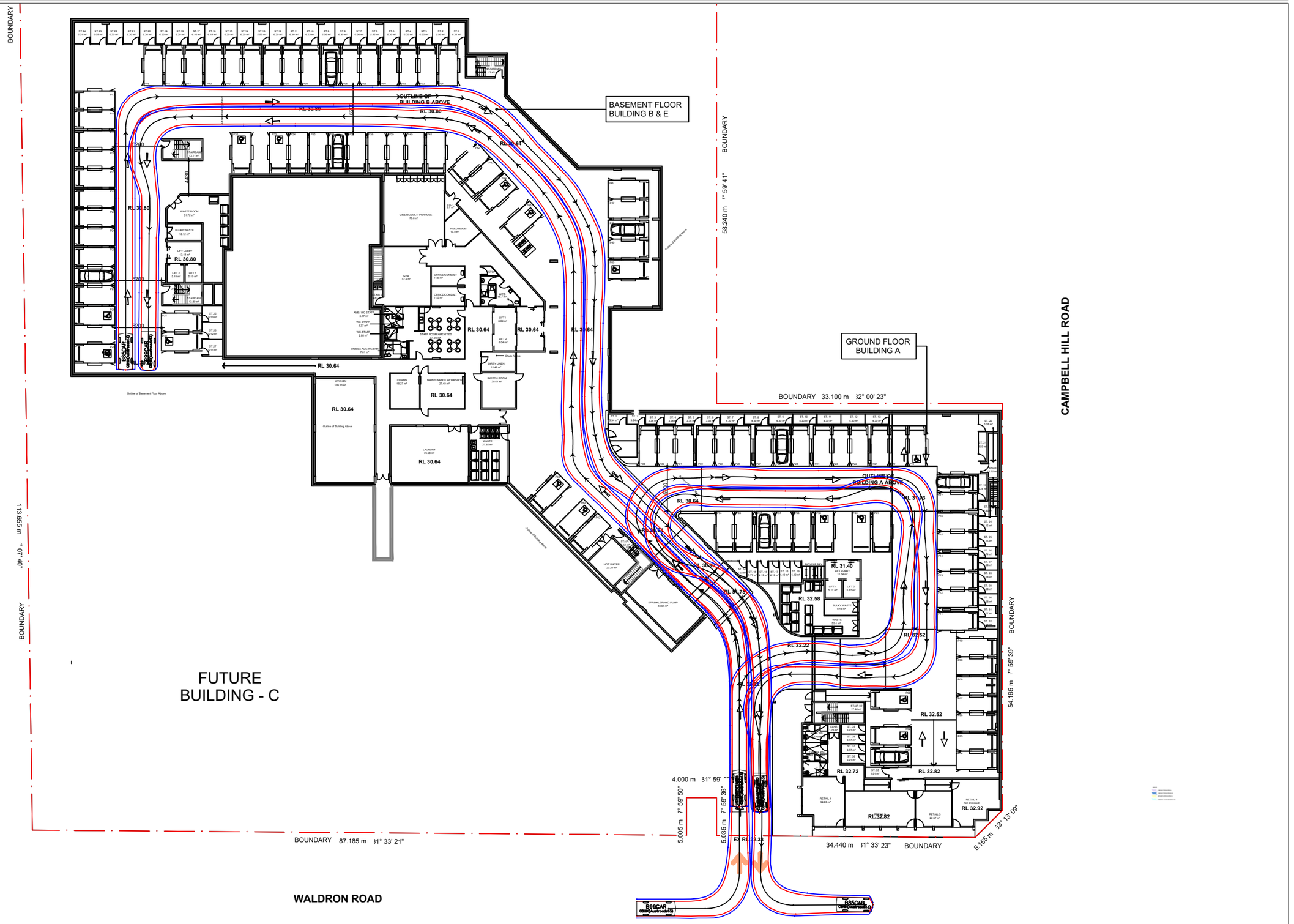
Colston Budd Rogers & Kafes Pty Ltd

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 14.12.2023

Figure 4

APPENDIX A

VEHICLE SWEPT PATHS



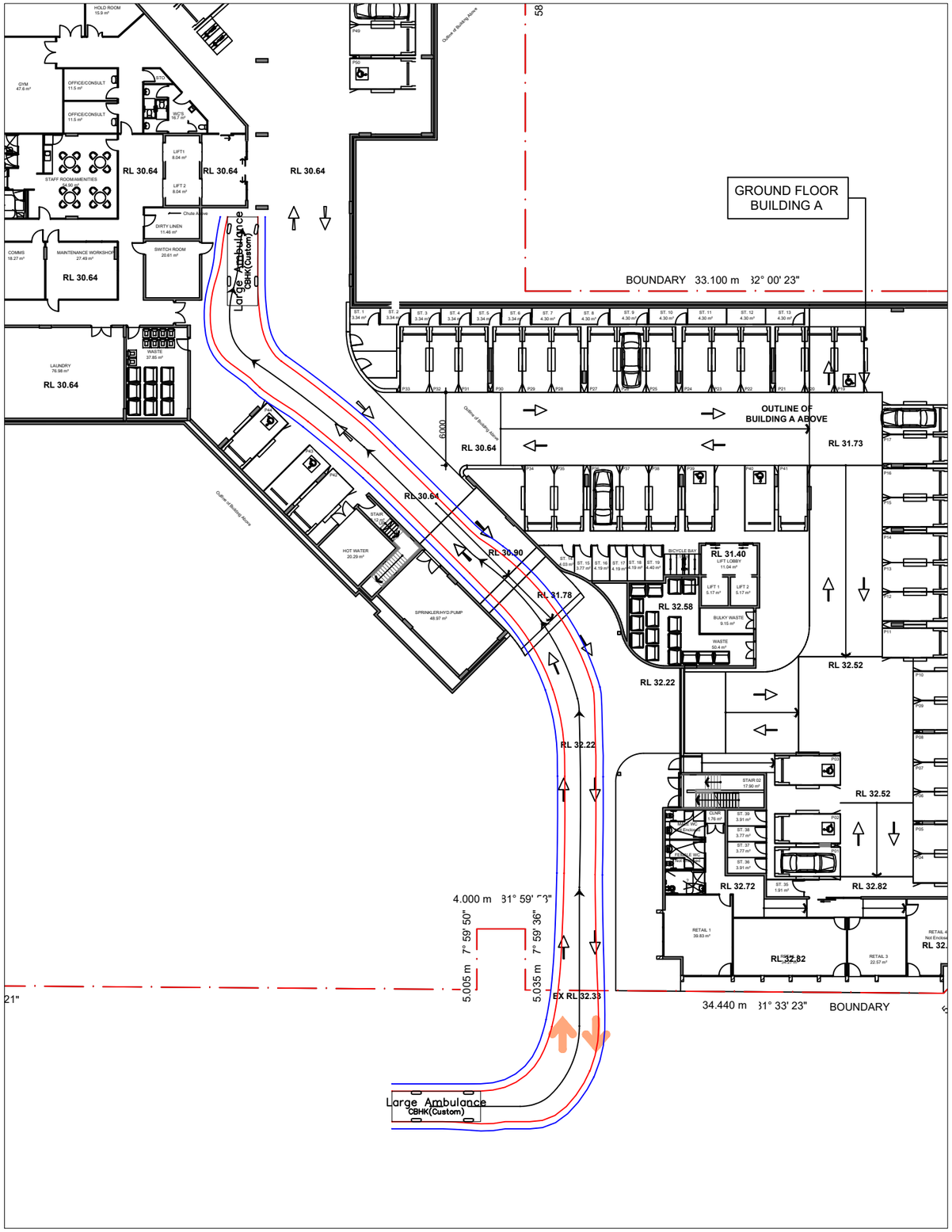
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

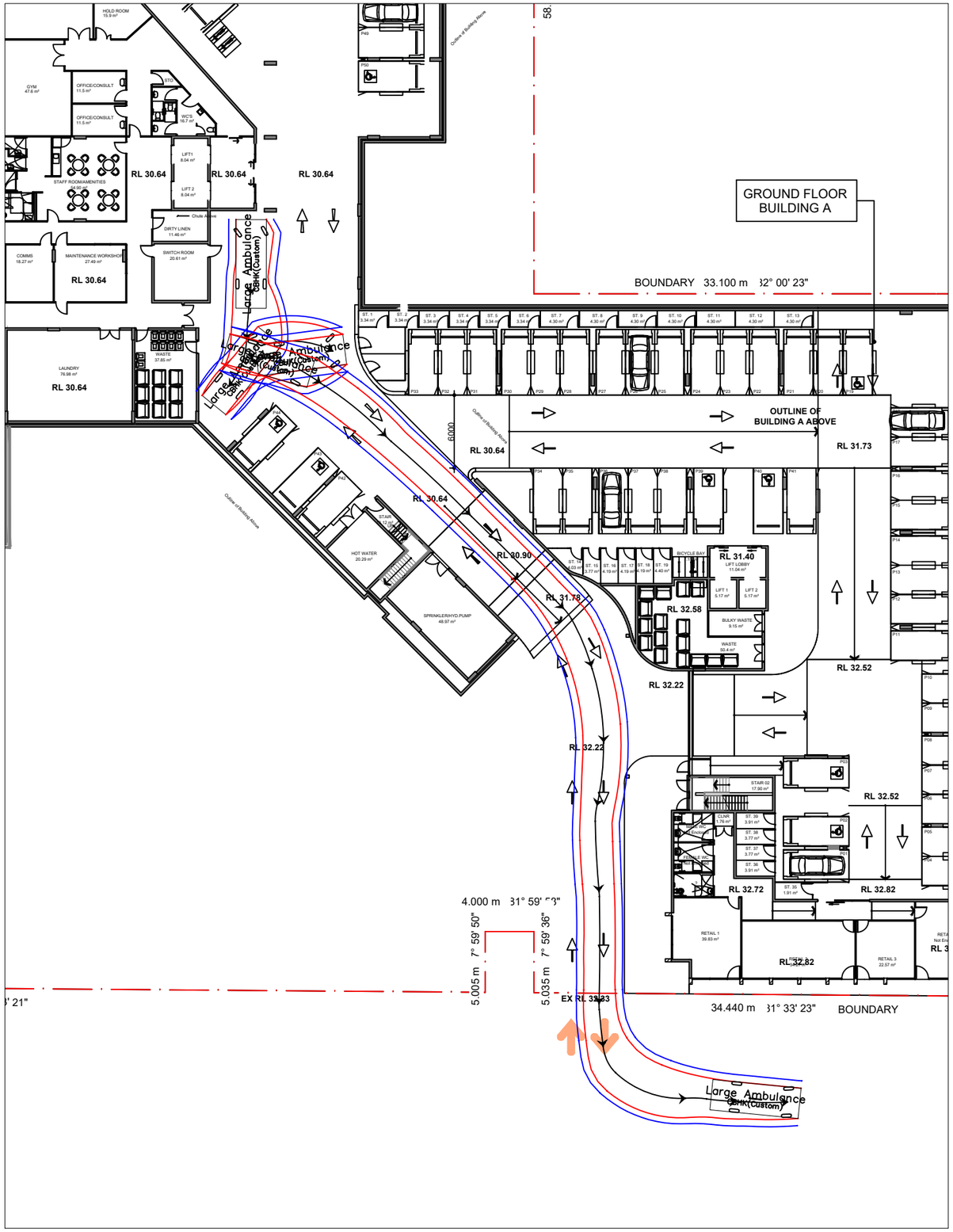
Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

B85 & B99 VEHICLE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 30.09.2025

A1





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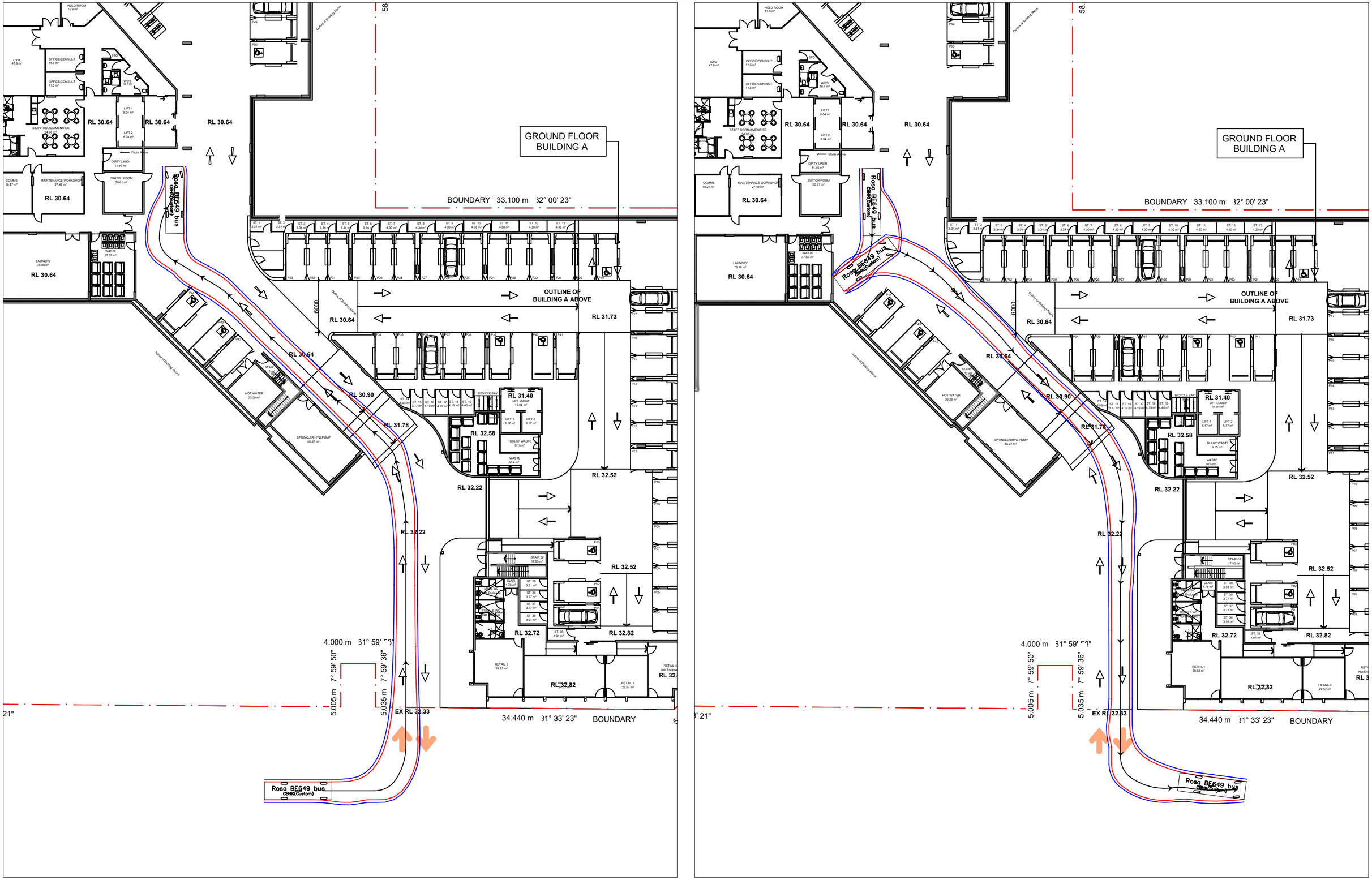
Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

7.3m AMBULANCE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 30.09.2025

A2



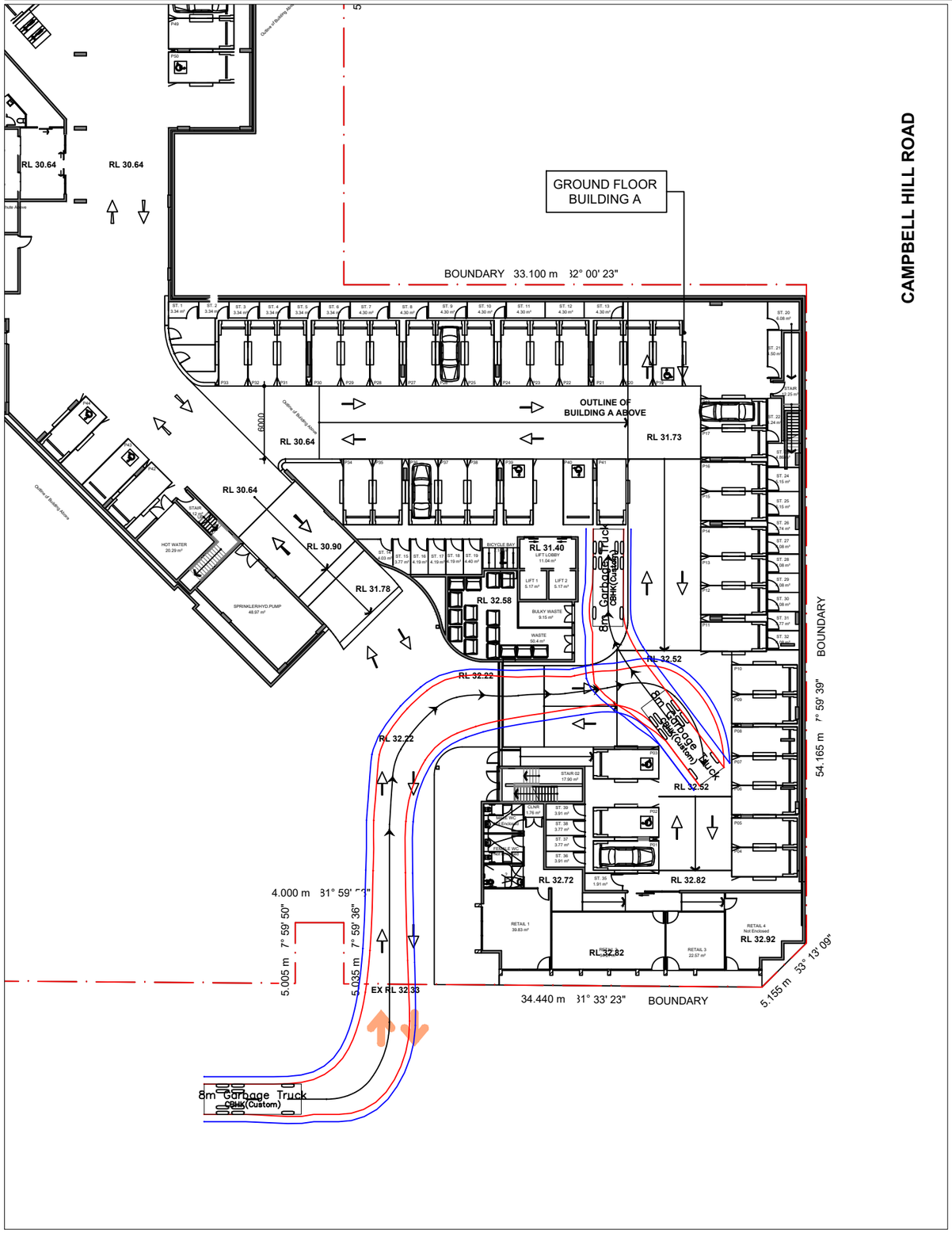
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

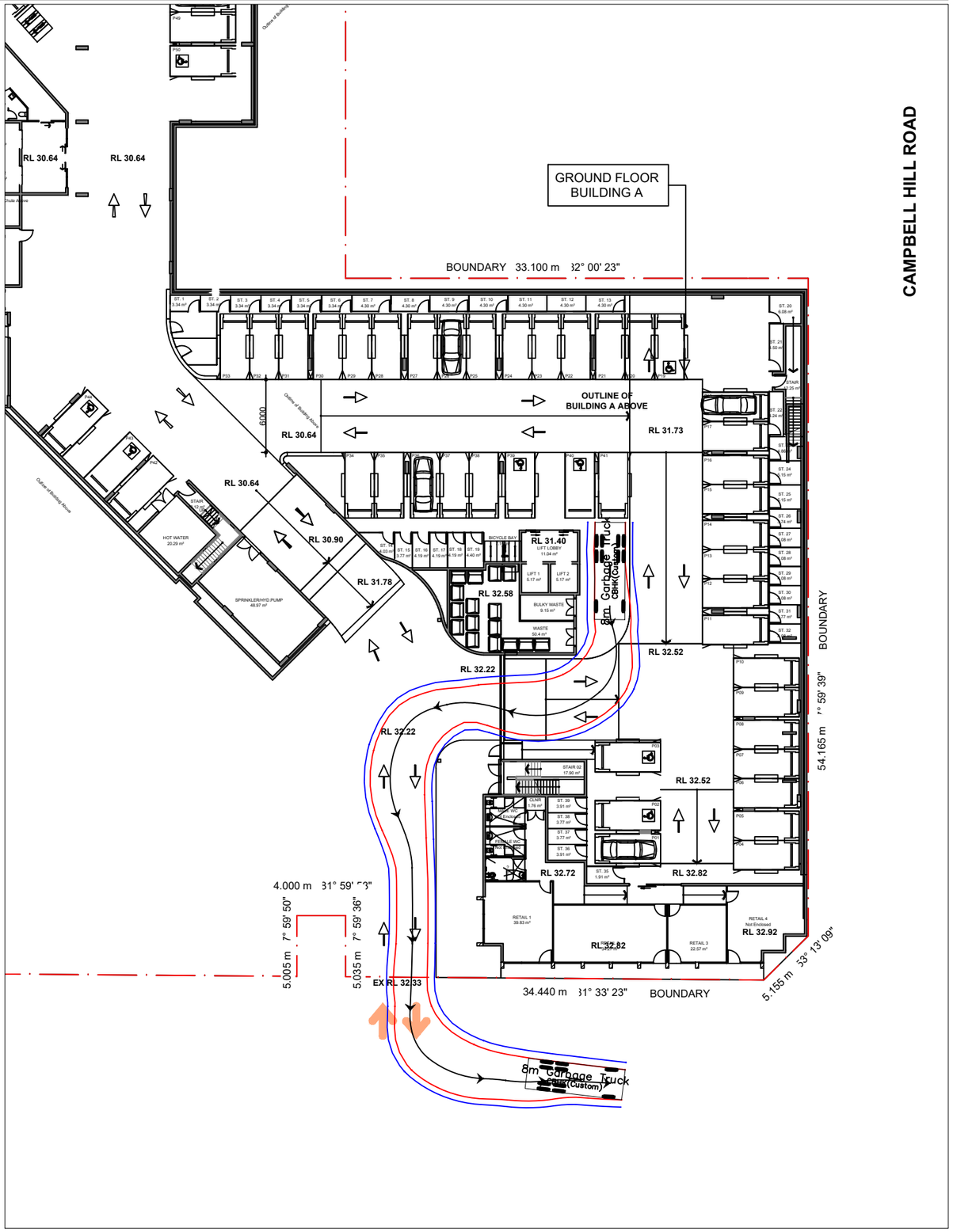
Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

7.7m MINI BUS SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 30.09.2025

A3





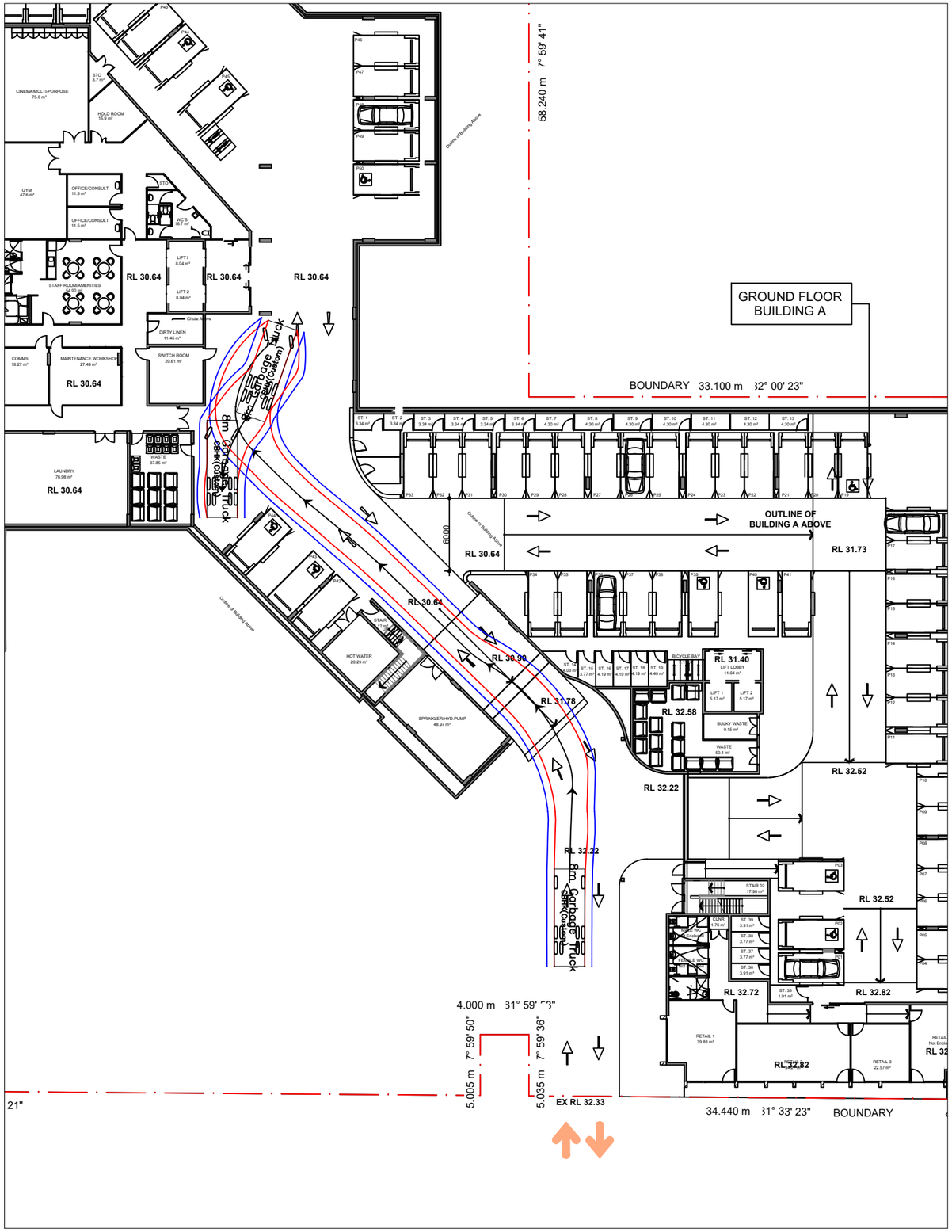
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

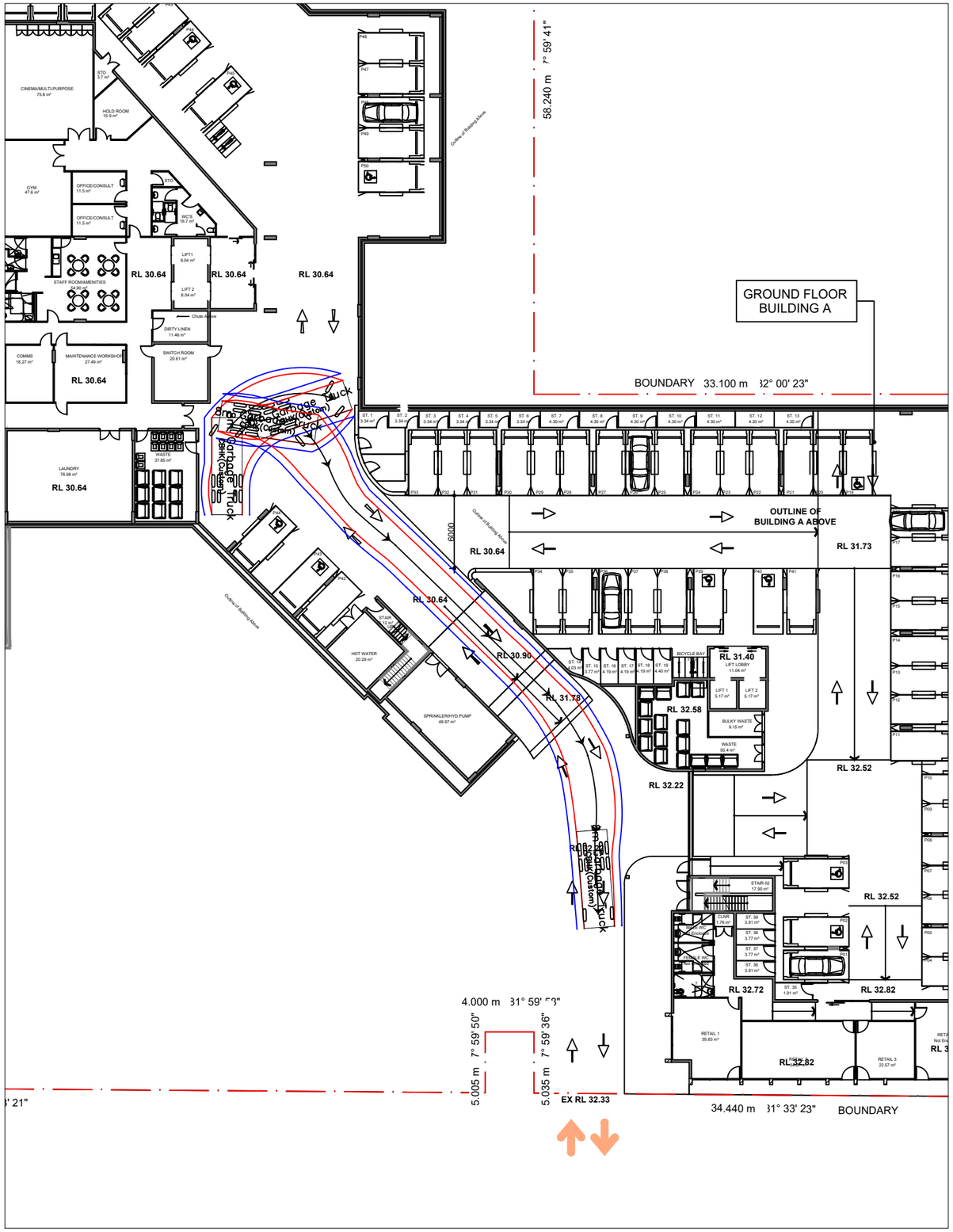
Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

8.0m GARBAGE TRUCK VEHICLE SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 30.09.2025

A4





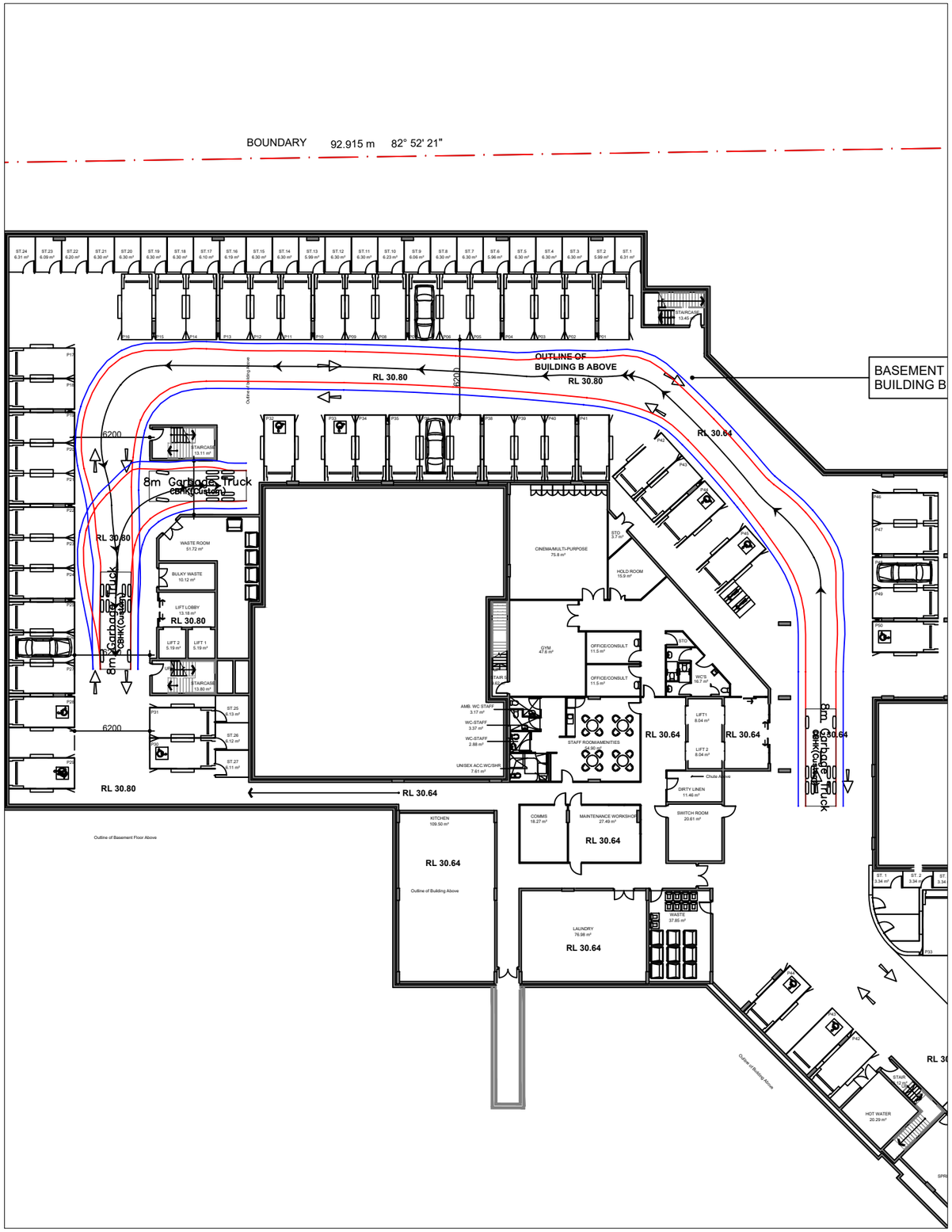
NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

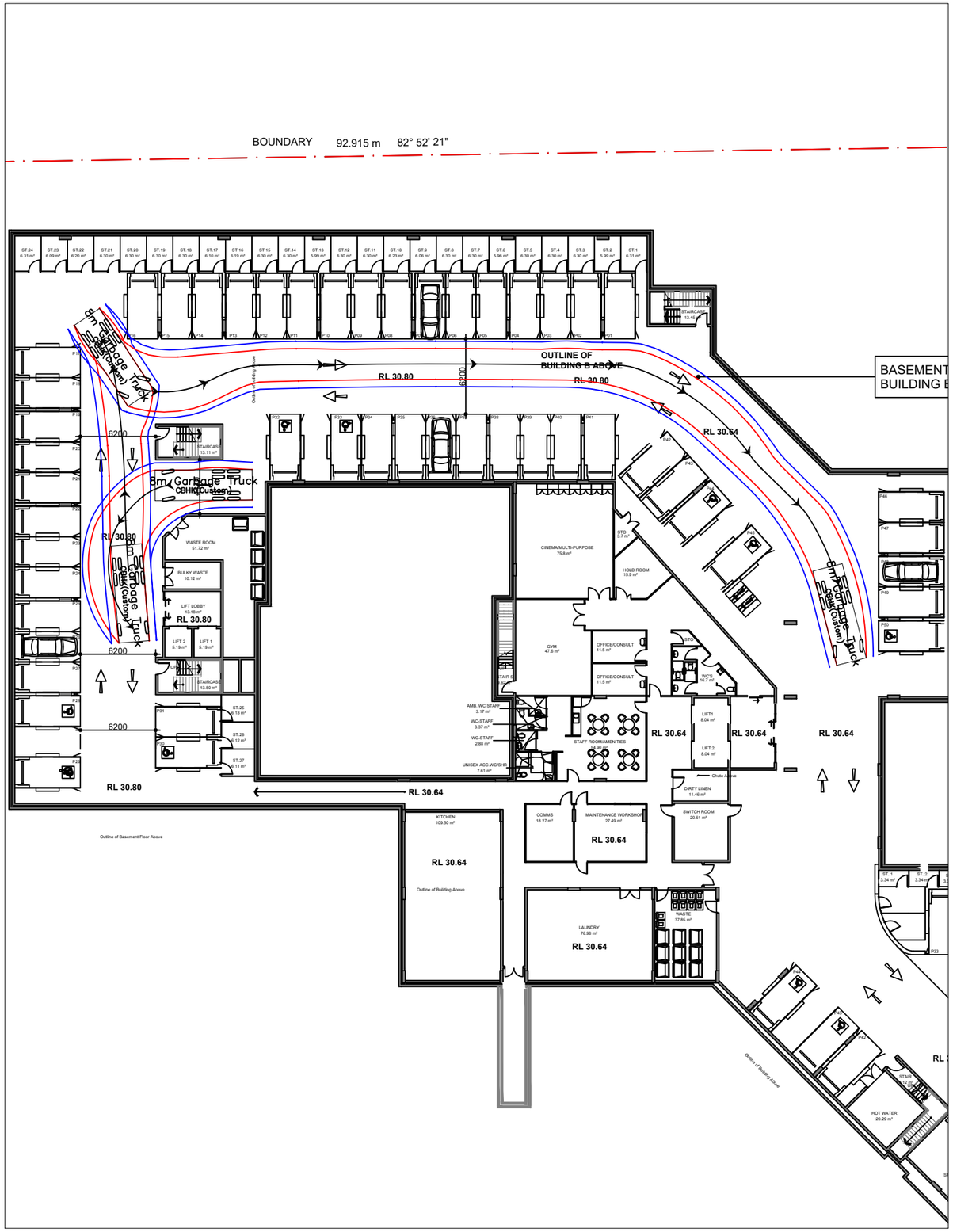
Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

8.0m GARBAGE TRUCK SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 30.09.2025

A5





NOTE:
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

Swept Path of Vehicle Body
Swept Path of Clearance to Vehicle Body

8.0m GARBAGE TRUCK SWEPT PATHS

DRAWN BY CBRK Pty Ltd_mc Ref: 12007 30.09.2025

A6

APPENDIX B

SIDRA MOVEMENT SUMMARIES

USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 12007 Chester Hill - Waldron Road Networks

Template: Movement Summaries

Site: 101 [AM EX - Miller Road - Christina Road - Waldron Road (Site Folder: AM Existing)]

Network: 1 [AM Existing (Network Folder: Existing)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Miller Road														
1	L2	254	10.8	254	10.8	0.359	8.7	LOS A	0.8	6.0	0.72	0.84	0.73	45.6
2	T1	214	6.4	214	6.4	0.327	5.9	LOS A	0.7	5.5	0.71	0.71	0.71	46.4
3	R2	60	3.5	60	3.5	0.327	10.3	LOS A	0.7	5.5	0.71	0.71	0.71	41.6
3u	U	1	0.0	1	0.0	0.327	12.0	LOS A	0.7	5.5	0.71	0.71	0.71	47.5
Approach		528	8.2	528	8.2	0.359	7.8	LOS A	0.8	6.0	0.71	0.77	0.72	45.7
East: Waldron Road														
4	L2	84	8.8	84	8.7	0.301	8.7	LOS A	0.6	4.7	0.69	0.79	0.69	44.8
5	T1	562	4.3	562	4.3	0.586	8.3	LOS A	2.1	14.9	0.80	0.90	0.93	45.6
6	R2	62	0.0	62	0.0	0.586	12.4	LOS A	2.1	14.9	0.82	0.92	0.99	45.6
6u	U	4	0.0	4	0.0	0.586	14.3	LOS A	2.1	14.9	0.82	0.92	0.99	38.7
Approach		713	4.4	713	4.4	0.586	8.7	LOS A	2.1	14.9	0.79	0.89	0.91	45.5
North: Miller Road														
7	L2	89	5.9	89	5.9	0.201	10.1	LOS A	0.4	2.7	0.71	0.83	0.71	40.4
8	T1	265	6.0	265	6.0	0.507	8.1	LOS A	1.5	10.8	0.82	0.96	0.96	45.5
9	R2	127	9.9	127	9.9	0.507	12.7	LOS A	1.5	10.8	0.82	0.96	0.96	45.5
9u	U	1	0.0	1	0.0	0.507	14.2	LOS A	1.5	10.8	0.82	0.96	0.96	46.5
Approach		483	7.0	483	7.0	0.507	9.7	LOS A	1.5	10.8	0.80	0.94	0.91	44.9
West: Christina Road														
10	L2	178	11.8	178	11.8	0.356	6.3	LOS A	0.8	6.1	0.58	0.64	0.58	46.2
11	T1	576	5.9	576	5.9	0.633	6.0	LOS A	2.3	17.5	0.69	0.72	0.75	41.7
12	R2	222	14.7	222	14.7	0.633	10.6	LOS A	2.3	17.5	0.72	0.74	0.79	46.2
12u	U	4	0.0	4	0.0	0.633	12.1	LOS A	2.3	17.5	0.72	0.74	0.79	47.3
Approach		980	8.9	980	8.9	0.633	7.1	LOS A	2.3	17.5	0.67	0.71	0.72	44.2
All Vehicles		2704	7.2	2704	7.2	0.633	8.1	LOS A	2.3	17.5	0.73	0.81	0.81	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [AM EX - Waldron Road - Campbell Hill Road (Site Folder: AM Existing)]

Network: 1 [AM Existing (Network Folder: Existing)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbell Hill Road														
1	L2	1	0.0	1	0.0	0.013	14.5	LOS B	0.0	0.4	0.95	0.62	0.95	38.6
2	T1	1	0.0	1	0.0	0.013	14.8	LOS B	0.0	0.4	0.95	0.62	0.95	46.6
3	R2	4	25.0	4	25.0	0.013	19.7	LOS B	0.0	0.4	0.95	0.62	0.95	38.6
Approach		6	16.7	6	16.7	0.013	18.0	LOS B	0.0	0.4	0.95	0.62	0.95	40.6
East: Waldron Road														
4	L2	2	50.0	2	50.0	0.697	7.1	LOS A	3.0	23.5	0.51	0.58	0.51	48.0
5	T1	673	15.0	673	15.0	0.697	6.4	LOS A	3.0	23.5	0.51	0.58	0.51	41.2
6	R2	108	6.8	108	6.8	0.697	9.9	LOS A	3.0	23.5	0.51	0.58	0.51	50.6
6u	U	33	3.2	33	3.2	0.697	11.6	LOS A	3.0	23.5	0.51	0.58	0.51	41.2
Approach		816	13.5	816	13.5	0.697	7.1	LOS A	3.0	23.5	0.51	0.58	0.51	43.6
North: Campbell Hill Road														
7	L2	64	0.0	64	0.0	0.312	9.8	LOS A	0.8	6.0	0.83	0.88	0.83	43.0
8	T1	1	0.0	1	0.0	0.312	10.1	LOS A	0.8	6.0	0.83	0.88	0.83	49.8
9	R2	132	3.2	132	3.2	0.312	13.8	LOS A	0.8	6.0	0.83	0.88	0.83	43.0
9u	U	3	0.0	3	0.0	0.312	15.5	LOS B	0.8	6.0	0.83	0.88	0.83	50.1
Approach		200	2.1	200	2.1	0.312	12.5	LOS A	0.8	6.0	0.83	0.88	0.83	43.3
West: Waldron Road														
10	L2	46	2.3	46	2.3	0.604	5.8	LOS A	2.5	18.3	0.59	0.54	0.59	51.1
11	T1	691	4.3	691	4.3	0.604	6.1	LOS A	2.5	18.3	0.59	0.54	0.59	45.4
12	R2	4	25.0	4	25.0	0.604	10.2	LOS A	2.5	18.3	0.59	0.54	0.59	50.9
12u	U	3	0.0	3	0.0	0.604	11.4	LOS A	2.5	18.3	0.59	0.54	0.59	45.4
Approach		744	4.2	744	4.2	0.604	6.1	LOS A	2.5	18.3	0.59	0.54	0.59	46.1
All Vehicles		1766	8.3	1766	8.3	0.697	7.3	LOS A	3.0	23.5	0.58	0.60	0.58	44.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [AM EX - Waldron Road - Chester Hill Road (Site Folder: AM Existing)]

Network: 1 [AM Existing (Network Folder: Existing)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Chester Hill Road														
1	L2	403	2.6	403	2.6	0.660	13.6	LOS A	7.9	56.4	0.77	0.80	0.77	36.8
3	R2	169	2.5	169	2.5	* 0.660	13.7	LOS A	7.9	56.4	0.77	0.80	0.77	38.3
Approach		573	2.6	573	2.6	0.660	13.6	LOS A	7.9	56.4	0.77	0.80	0.77	37.5
East: Waldron Road														
4	L2	154	6.8	154	6.8	0.120	7.4	LOS A	1.3	9.5	0.30	0.57	0.30	40.4
5	T1	413	4.3	413	4.3	* 0.931	57.4	LOS E	15.0	109.0	0.96	1.17	1.39	17.8
Approach		566	5.0	566	5.0	0.931	43.8	LOS D	15.0	109.0	0.78	1.01	1.10	23.3
West: Waldron Road														
11	T1	543	5.2	543	5.2	0.799	22.9	LOS B	12.6	92.0	0.76	0.73	0.83	30.1
12	R2	248	1.3	248	1.3	* 0.641	40.8	LOS C	6.5	46.1	0.96	0.96	0.96	27.0
Approach		792	4.0	792	4.0	0.799	28.6	LOS C	12.6	92.0	0.82	0.80	0.87	29.0
All Vehicles		1931	3.9	1931	3.9	0.931	28.6	LOS C	15.0	109.0	0.79	0.86	0.91	29.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 12007 Chester Hill - Waldron Road Networks

Template: Movement Summaries

Site: 101 [PM EX - Miller Road - Christina Road - Waldron Road (Site Folder: PM Existing)]

Network: 2 [PM Existing (Network Folder: Existing)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Miller Road														
1	L2	345	8.8	345	8.8	0.498	11.8	LOS A	1.5	10.9	0.85	0.98	0.99	44.7
2	T1	274	3.1	274	3.1	0.544	9.6	LOS A	1.6	11.5	0.87	1.00	1.06	45.0
3	R2	58	1.8	58	1.8	0.544	14.0	LOS A	1.6	11.5	0.87	1.00	1.06	39.4
3u	U	5	20.0	5	20.0	0.544	16.6	LOS B	1.6	11.5	0.87	1.00	1.06	45.8
Approach		682	6.0	682	6.0	0.544	11.1	LOS A	1.6	11.5	0.86	0.99	1.03	44.6
East: Waldron Road														
4	L2	137	2.3	137	2.3	0.472	13.8	LOS A	1.2	8.9	0.83	0.97	1.01	42.4
5	T1	728	3.5	728	3.5	0.919	28.5	LOS C	7.8	56.3	0.98	1.61	2.37	35.7
6	R2	49	2.1	49	2.1	0.919	35.2	LOS C	7.8	56.3	1.00	1.71	2.60	34.8
6u	U	1	0.0	1	0.0	0.919	37.0	LOS C	7.8	56.3	1.00	1.71	2.60	24.5
Approach		916	3.2	916	3.2	0.919	26.7	LOS B	7.8	56.3	0.96	1.52	2.18	36.5
North: Miller Road														
7	L2	72	2.9	72	2.9	0.227	10.5	LOS A	0.4	3.2	0.78	0.87	0.78	39.8
8	T1	261	2.4	261	2.4	0.573	10.2	LOS A	1.8	13.2	0.90	1.04	1.12	44.4
9	R2	128	9.0	128	9.0	0.573	14.8	LOS B	1.8	13.2	0.91	1.05	1.14	44.4
9u	U	1	0.0	1	0.0	0.573	16.3	LOS B	1.8	13.2	0.91	1.05	1.14	45.4
Approach		462	4.3	462	4.3	0.573	11.5	LOS A	1.8	13.2	0.88	1.01	1.07	44.0
West: Christina Road														
10	L2	171	6.2	171	6.2	0.438	6.7	LOS A	1.1	8.0	0.66	0.68	0.66	45.9
11	T1	504	2.9	504	2.9	0.780	8.0	LOS A	4.2	31.3	0.82	0.86	0.98	40.0
12	R2	491	8.4	491	8.4	0.780	13.3	LOS A	4.2	31.3	0.90	0.96	1.14	44.6
12u	U	2	0.0	2	0.0	0.780	14.9	LOS B	4.2	31.3	0.90	0.96	1.14	45.5
Approach		1167	5.7	1167	5.7	0.780	10.0	LOS A	4.2	31.3	0.83	0.88	1.00	43.4
All Vehicles		3227	4.9	3227	4.9	0.919	15.2	LOS B	7.8	56.3	0.88	1.10	1.35	41.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [PM EX - Waldron Road - Campbell Hill Road (Site Folder: PM Existing)]

Network: 2 [PM Existing (Network Folder: Existing)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbell Hill Road														
1	L2	8	12.5	8	12.5	0.066	21.6	LOS B	0.3	2.0	1.00	0.72	1.00	35.0
2	T1	8	0.0	8	0.0	0.066	21.1	LOS B	0.3	2.0	1.00	0.72	1.00	43.9
3	R2	8	0.0	8	0.0	0.066	24.7	LOS B	0.3	2.0	1.00	0.72	1.00	35.0
Approach		25	4.2	25	4.2	0.066	22.4	LOS B	0.3	2.0	1.00	0.72	1.00	38.9
East: Waldron Road														
4	L2	1	0.0	1	0.0	0.830	7.8	LOS A	5.3	38.4	0.64	0.64	0.70	49.4
5	T1	895	3.2	895	3.2	0.830	8.2	LOS A	5.3	38.4	0.64	0.64	0.70	40.1
6	R2	82	5.1	82	5.1	0.830	11.8	LOS A	5.3	38.4	0.64	0.64	0.70	50.1
6u	U	19	0.0	19	0.0	0.830	13.5	LOS A	5.3	38.4	0.64	0.64	0.70	40.1
Approach		997	3.3	997	3.3	0.830	8.6	LOS A	5.3	38.4	0.64	0.64	0.70	41.8
North: Campbell Hill Road														
7	L2	42	2.5	42	2.5	0.310	9.8	LOS A	0.8	5.9	0.81	0.87	0.81	42.9
8	T1	6	0.0	6	0.0	0.310	9.9	LOS A	0.8	5.9	0.81	0.87	0.81	49.7
9	R2	155	2.0	155	2.0	0.310	13.6	LOS A	0.8	5.9	0.81	0.87	0.81	42.9
9u	U	1	0.0	1	0.0	0.310	15.3	LOS B	0.8	5.9	0.81	0.87	0.81	50.0
Approach		204	2.1	204	2.1	0.310	12.7	LOS A	0.8	5.9	0.81	0.87	0.81	43.3
West: Waldron Road														
10	L2	72	0.0	72	0.0	0.597	5.4	LOS A	2.5	17.9	0.53	0.51	0.53	51.5
11	T1	695	1.7	695	1.7	0.597	5.7	LOS A	2.5	17.9	0.53	0.51	0.53	45.9
12	R2	5	80.0	5	80.0	0.597	11.1	LOS A	2.5	17.9	0.53	0.51	0.53	48.8
12u	U	4	0.0	4	0.0	0.597	11.1	LOS A	2.5	17.9	0.53	0.51	0.53	45.9
Approach		776	2.0	776	2.0	0.597	5.7	LOS A	2.5	17.9	0.53	0.51	0.53	46.9
All Vehicles		2002	2.7	2002	2.7	0.830	8.1	LOS A	5.3	38.4	0.62	0.62	0.65	44.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [PM EX - Waldron Road - Chester Hill Road (Site Folder: PM Existing)]

Network: 2 [PM Existing (Network Folder: Existing)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Chester Hill Road														
1	L2	485	2.8	485	2.8	0.843	27.1	LOS B	13.0	93.4	0.94	0.98	1.05	29.1
3	R2	175	3.0	175	3.0	* 0.843	27.2	LOS B	13.0	93.4	0.94	0.98	1.05	33.6
Approach		660	2.9	660	2.9	0.843	27.1	LOS B	13.0	93.4	0.94	0.98	1.05	30.8
East: Waldron Road														
4	L2	209	4.5	209	4.5	0.154	6.6	LOS A	1.6	11.6	0.28	0.56	0.28	40.7
5	T1	512	3.7	512	3.7	* 0.889	41.4	LOS C	16.0	115.5	0.88	0.98	1.14	21.0
Approach		721	3.9	721	3.9	0.889	31.3	LOS C	16.0	115.5	0.71	0.86	0.89	26.9
West: Waldron Road														
11	T1	487	2.4	487	2.4	0.659	13.2	LOS A	8.3	59.4	0.62	0.55	0.62	33.6
12	R2	277	0.8	277	0.8	* 0.763	43.6	LOS D	7.9	56.0	1.00	1.02	1.12	26.3
Approach		764	1.8	764	1.8	0.763	24.2	LOS B	8.3	59.4	0.76	0.72	0.80	30.5
All Vehicles		2145	2.8	2145	2.8	0.889	27.5	LOS B	16.0	115.5	0.80	0.85	0.91	29.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 12007 Chester Hill - Waldron Road Networks

Template: Movement Summaries

Site: 101 [AM EX + Dev - Miller Road - Christina Road - Waldron Road (Site Folder: AM Existing + Development)]

Network: 3 [AM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Miller Road														
1	L2	254	10.8	254	10.8	0.360	8.8	LOS A	0.8	6.1	0.72	0.84	0.74	45.6
2	T1	214	6.4	214	6.4	0.328	5.9	LOS A	0.8	5.5	0.71	0.71	0.71	46.4
3	R2	60	3.5	60	3.5	0.328	10.3	LOS A	0.8	5.5	0.71	0.71	0.71	41.6
3u	U	1	0.0	1	0.0	0.328	12.0	LOS A	0.8	5.5	0.71	0.71	0.71	47.5
Approach		528	8.2	528	8.2	0.360	7.8	LOS A	0.8	6.1	0.72	0.77	0.72	45.7
East: Waldron Road														
4	L2	84	8.7	84	8.7	0.303	8.7	LOS A	0.6	4.8	0.69	0.79	0.69	44.8
5	T1	567	4.3	567	4.3	0.591	8.3	LOS A	2.1	15.1	0.80	0.90	0.94	45.6
6	R2	62	0.0	62	0.0	0.591	12.5	LOS A	2.1	15.1	0.82	0.93	0.99	45.6
6u	U	4	0.0	4	0.0	0.591	14.4	LOS A	2.1	15.1	0.82	0.93	0.99	38.7
Approach		718	4.4	718	4.4	0.591	8.8	LOS A	2.1	15.1	0.79	0.89	0.92	45.5
North: Miller Road														
7	L2	89	5.9	89	5.9	0.202	10.2	LOS A	0.4	2.8	0.71	0.83	0.71	40.4
8	T1	265	6.0	265	6.0	0.510	8.2	LOS A	1.5	10.9	0.82	0.96	0.96	45.5
9	R2	127	9.9	127	9.9	0.510	12.8	LOS A	1.5	10.9	0.82	0.97	0.97	45.5
9u	U	1	0.0	1	0.0	0.510	14.3	LOS A	1.5	10.9	0.82	0.97	0.97	46.5
Approach		483	7.0	483	7.0	0.510	9.8	LOS A	1.5	10.9	0.80	0.94	0.92	44.9
West: Christina Road														
10	L2	178	11.8	178	11.8	0.358	6.3	LOS A	0.8	6.1	0.58	0.64	0.58	46.2
11	T1	581	5.8	581	5.8	0.636	6.1	LOS A	2.4	17.8	0.69	0.73	0.75	41.7
12	R2	222	14.7	222	14.7	0.636	10.6	LOS A	2.4	17.8	0.72	0.75	0.79	46.2
12u	U	4	0.0	4	0.0	0.636	12.1	LOS A	2.4	17.8	0.72	0.75	0.79	47.3
Approach		985	8.9	985	8.9	0.636	7.2	LOS A	2.4	17.8	0.68	0.72	0.73	44.1
All Vehicles		2715	7.2	2715	7.2	0.636	8.2	LOS A	2.4	17.8	0.74	0.81	0.81	45.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [AM EX + Dev - Waldron Road - Campbell Hill Road (Site Folder: AM Existing + Development)]

Network: 3 [AM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbell Hill Road														
1	L2	1	0.0	1	0.0	0.013	14.7	LOS B	0.0	0.4	0.95	0.62	0.95	38.5
2	T1	1	0.0	1	0.0	0.013	14.9	LOS B	0.0	0.4	0.95	0.62	0.95	46.5
3	R2	4	25.0	4	25.0	0.013	19.8	LOS B	0.0	0.4	0.95	0.62	0.95	38.5
Approach		6	16.7	6	16.7	0.013	18.2	LOS B	0.0	0.4	0.95	0.62	0.95	40.5
East: Waldron Road														
4	L2	2	50.0	2	50.0	0.701	7.2	LOS A	3.1	23.8	0.51	0.58	0.51	47.9
5	T1	678	14.9	678	14.9	0.701	6.5	LOS A	3.1	23.8	0.51	0.58	0.51	41.2
6	R2	108	6.8	108	6.8	0.701	9.9	LOS A	3.1	23.8	0.51	0.58	0.51	50.5
6u	U	33	3.2	33	3.2	0.701	11.6	LOS A	3.1	23.8	0.51	0.58	0.51	41.2
Approach		821	13.5	821	13.5	0.701	7.1	LOS A	3.1	23.8	0.51	0.58	0.51	43.6
North: Campbell Hill Road														
7	L2	64	0.0	64	0.0	0.314	9.9	LOS A	0.9	6.1	0.83	0.88	0.83	43.0
8	T1	1	0.0	1	0.0	0.314	10.1	LOS A	0.9	6.1	0.83	0.88	0.83	49.8
9	R2	132	3.2	132	3.2	0.314	13.9	LOS A	0.9	6.1	0.83	0.88	0.83	43.0
9u	U	3	0.0	3	0.0	0.314	15.5	LOS B	0.9	6.1	0.83	0.88	0.83	50.1
Approach		200	2.1	200	2.1	0.314	12.6	LOS A	0.9	6.1	0.83	0.88	0.83	43.2
West: Waldron Road														
10	L2	46	2.3	46	2.3	0.608	5.8	LOS A	2.6	18.6	0.59	0.55	0.59	51.1
11	T1	696	4.2	696	4.2	0.608	6.1	LOS A	2.6	18.6	0.59	0.55	0.59	45.4
12	R2	4	25.0	4	25.0	0.608	10.2	LOS A	2.6	18.6	0.59	0.55	0.59	50.9
12u	U	3	0.0	3	0.0	0.608	11.4	LOS A	2.6	18.6	0.59	0.55	0.59	45.4
Approach		749	4.2	749	4.2	0.608	6.1	LOS A	2.6	18.6	0.59	0.55	0.59	46.1
All Vehicles		1777	8.3	1777	8.3	0.701	7.4	LOS A	3.1	23.8	0.58	0.60	0.58	44.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [AM EX + Dev - Waldron Road - Chester Hill Road (Site Folder: AM Existing + Development)]

Network: 3 [AM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Chester Hill Road														
1	L2	408	2.6	408	2.6	0.664	13.6	LOS A	8.0	56.9	0.77	0.80	0.77	36.8
3	R2	169	2.5	169	2.5	* 0.664	13.7	LOS A	8.0	56.9	0.77	0.80	0.77	38.3
Approach		578	2.6	578	2.6	0.664	13.6	LOS A	8.0	56.9	0.77	0.80	0.77	37.4
East: Waldron Road														
4	L2	154	6.8	154	6.8	0.120	7.4	LOS A	1.3	9.5	0.30	0.57	0.30	40.4
5	T1	413	4.3	413	4.3	* 0.931	57.4	LOS E	15.0	109.0	0.96	1.17	1.39	17.8
Approach		566	5.0	566	5.0	0.931	43.8	LOS D	15.0	109.0	0.78	1.01	1.10	23.3
West: Waldron Road														
11	T1	548	5.2	548	5.2	0.804	23.4	LOS B	12.9	94.0	0.76	0.74	0.84	29.9
12	R2	248	1.3	248	1.3	* 0.641	40.8	LOS C	6.5	46.1	0.96	0.96	0.96	27.0
Approach		797	4.0	797	4.0	0.804	28.8	LOS C	12.9	94.0	0.83	0.81	0.88	28.9
All Vehicles		1941	3.9	1941	3.9	0.931	28.7	LOS C	15.0	109.0	0.80	0.86	0.91	28.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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USER REPORT FOR NETWORK SITE

All Movement Classes

Project: 12007 Chester Hill - Waldron Road Networks

Template: Movement Summaries

Site: 101 [PM EX + Dev - Miller Road - Christina Road - Waldron Road (Site Folder: PM Existing + Development)]

Network: 4 [PM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Miller Road														
1	L2	345	8.8	345	8.8	0.501	11.9	LOS A	1.5	11.0	0.86	0.98	1.00	44.7
2	T1	274	3.1	274	3.1	0.547	9.7	LOS A	1.6	11.6	0.87	1.00	1.07	45.0
3	R2	58	1.8	58	1.8	0.547	14.1	LOS A	1.6	11.6	0.87	1.00	1.07	39.4
3u	U	5	20.0	5	20.0	0.547	16.7	LOS B	1.6	11.6	0.87	1.00	1.07	45.7
Approach		682	6.0	682	6.0	0.547	11.2	LOS A	1.6	11.6	0.86	0.99	1.03	44.5
East: Waldron Road														
4	L2	137	2.3	137	2.3	0.475	13.8	LOS A	1.3	9.0	0.84	0.97	1.01	42.4
5	T1	734	3.4	734	3.4	0.925	29.5	LOS C	8.1	58.3	0.98	1.63	2.43	35.3
6	R2	49	2.1	49	2.1	0.925	36.4	LOS C	8.1	58.3	1.00	1.75	2.67	34.4
6u	U	1	0.0	1	0.0	0.925	38.1	LOS C	8.1	58.3	1.00	1.75	2.67	24.0
Approach		921	3.2	921	3.2	0.925	27.5	LOS B	8.1	58.3	0.96	1.54	2.24	36.2
North: Miller Road														
7	L2	72	2.9	72	2.9	0.229	10.6	LOS A	0.4	3.2	0.78	0.87	0.78	39.8
8	T1	261	2.4	261	2.4	0.576	10.3	LOS A	1.8	13.3	0.90	1.04	1.12	44.4
9	R2	128	9.0	128	9.0	0.576	14.9	LOS B	1.8	13.3	0.91	1.05	1.15	44.4
9u	U	1	0.0	1	0.0	0.576	16.4	LOS B	1.8	13.3	0.91	1.05	1.15	45.3
Approach		462	4.3	462	4.3	0.576	11.6	LOS A	1.8	13.3	0.88	1.02	1.08	44.0
West: Christina Road														
10	L2	171	6.2	171	6.2	0.440	6.8	LOS A	1.1	8.0	0.66	0.69	0.67	45.9
11	T1	509	2.9	509	2.9	0.783	8.0	LOS A	4.3	31.7	0.82	0.87	0.98	40.0
12	R2	491	8.4	491	8.4	0.783	13.4	LOS A	4.3	31.7	0.91	0.96	1.15	44.5
12u	U	2	0.0	2	0.0	0.783	15.0	LOS B	4.3	31.7	0.91	0.96	1.15	45.5
Approach		1173	5.7	1173	5.7	0.783	10.1	LOS A	4.3	31.7	0.83	0.88	1.01	43.4
All Vehicles		3238	4.8	3238	4.8	0.925	15.5	LOS B	8.1	58.3	0.88	1.11	1.37	41.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [PM EX + Dev - Waldron Road - Campbell Hill Road (Site Folder: PM Existing + Development)]

Network: 4 [PM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Campbell Hill Road														
1	L2	8	12.5	8	12.5	0.067	21.8	LOS B	0.3	2.0	1.00	0.72	1.00	34.9
2	T1	8	0.0	8	0.0	0.067	21.3	LOS B	0.3	2.0	1.00	0.72	1.00	43.8
3	R2	8	0.0	8	0.0	0.067	24.9	LOS B	0.3	2.0	1.00	0.72	1.00	34.9
Approach		25	4.2	25	4.2	0.067	22.7	LOS B	0.3	2.0	1.00	0.72	1.00	38.8
East: Waldron Road														
4	L2	1	0.0	1	0.0	0.834	7.9	LOS A	5.5	39.3	0.65	0.64	0.70	49.4
5	T1	900	3.2	900	3.2	0.834	8.3	LOS A	5.5	39.3	0.65	0.64	0.70	40.0
6	R2	82	5.1	82	5.1	0.834	11.9	LOS A	5.5	39.3	0.65	0.64	0.70	50.0
6u	U	19	0.0	19	0.0	0.834	13.5	LOS A	5.5	39.3	0.65	0.64	0.70	40.0
Approach		1002	3.3	1002	3.3	0.834	8.7	LOS A	5.5	39.3	0.65	0.64	0.70	41.6
North: Campbell Hill Road														
7	L2	42	2.5	42	2.5	0.312	9.8	LOS A	0.8	6.0	0.82	0.88	0.82	42.8
8	T1	6	0.0	6	0.0	0.312	10.0	LOS A	0.8	6.0	0.82	0.88	0.82	49.6
9	R2	155	2.0	155	2.0	0.312	13.7	LOS A	0.8	6.0	0.82	0.88	0.82	42.8
9u	U	1	0.0	1	0.0	0.312	15.4	LOS B	0.8	6.0	0.82	0.88	0.82	49.9
Approach		204	2.1	204	2.1	0.312	12.8	LOS A	0.8	6.0	0.82	0.88	0.82	43.2
West: Waldron Road														
10	L2	72	0.0	72	0.0	0.601	5.4	LOS A	2.5	18.1	0.53	0.52	0.53	51.5
11	T1	700	1.7	700	1.7	0.601	5.7	LOS A	2.5	18.1	0.53	0.52	0.53	45.9
12	R2	5	80.0	5	80.0	0.601	11.1	LOS A	2.5	18.1	0.53	0.52	0.53	48.8
12u	U	4	0.0	4	0.0	0.601	11.1	LOS A	2.5	18.1	0.53	0.52	0.53	45.9
Approach		781	2.0	781	2.0	0.601	5.8	LOS A	2.5	18.1	0.53	0.52	0.53	46.9
All Vehicles		2013	2.7	2013	2.7	0.834	8.1	LOS A	5.5	39.3	0.62	0.62	0.65	43.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site: 101 [PM EX + Dev - Waldron Road - Chester Hill Road (Site Folder: PM Existing + Development)]

Network: 4 [PM Existing + Development (Network Folder: Existing + Development)]

New Site
Site Category: (None)
Signals - EQUISAT (Fixed-Time/SCATS) Coordinated Cycle Time = 100 seconds (Network Optimum Cycle Time - Minimum Delay)

Timings based on settings in the Network Timing dialog
Phase Times determined by the program
Downstream lane blockage effects included in determining phase times
Phase Sequence: Leading Right Turn
Reference Phase: Phase A
Input Phase Sequence: A, B, C
Output Phase Sequence: A, B, C

Vehicle Movement Performance

Mov ID	Turn	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	AVERAGE BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Chester Hill Road														
1	L2	485	2.8	485	2.8	0.841	26.9	LOS B	13.0	93.0	0.94	0.97	1.04	29.2
3	R2	175	3.0	175	3.0	* 0.841	26.9	LOS B	13.0	93.0	0.94	0.97	1.04	33.6
Approach		660	2.9	660	2.9	0.841	26.9	LOS B	13.0	93.0	0.94	0.97	1.04	30.9
East: Waldron Road														
4	L2	209	4.5	209	4.5	0.154	6.6	LOS A	1.6	11.6	0.28	0.56	0.28	40.7
5	T1	517	3.7	517	3.7	* 0.897	43.0	LOS D	16.5	119.2	0.89	1.00	1.16	20.6
Approach		726	3.9	726	3.9	0.897	32.5	LOS C	16.5	119.2	0.71	0.87	0.91	26.5
West: Waldron Road														
11	T1	487	2.4	487	2.4	0.663	13.2	LOS A	8.3	59.4	0.62	0.55	0.62	33.6
12	R2	283	0.7	283	0.7	* 0.783	45.3	LOS D	8.3	58.3	1.00	1.05	1.15	25.9
Approach		771	1.8	771	1.8	0.783	25.0	LOS B	8.3	59.4	0.76	0.73	0.81	30.3
All Vehicles		2157	2.8	2157	2.8	0.897	28.1	LOS B	16.5	119.2	0.80	0.85	0.92	29.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Network Data dialog (Network tab).
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

* Critical Movement (Signal Timing)

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APPENDIX C

OPERATOR CORRESPONDENCE

The Abel Tasman Village Association Ltd
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www.abeltasman.com.au

Colston Budd Hunt & Kafes
Suite 1801, Tower A Zenith Centre
821 Pacific Highway
CHATSWOOD NSW 2067

Attn: Joshua Hollis

Dear Josh,

We write in reference to the proposed Abel Tasman Village redevelopment submission prepared for Abel Tasman Village Ltd, as it pertains to carparking for independent living units residents.

We have been advised that the car space sizes proposed for the carparking may in ordinary circumstances be required to have varying sizes based on regulatory requirements.

Our Architects have designed the proposed basement carparking specific to their assessment regarding the needs of our residents, and based on our proposed operational needs. These will be governed by our residents' levels of acuity and historical usage of parking requirements.

As such, and as advised by our team of consultants, we request you treat the design of the parking spaces as an intended "performance solution" for parking, noting that our accessible parking requirements will be compliant with the required standards, but that other oversize parking requirements will not be preferred for the proposed Abel Tasman Village redevelopment works.

We thank you in advance for your assistance.

Kind Regards,

Marian Achten
Chairperson
Abel Tasman Village Ltd

For and on behalf of Marian Achten,

Sophia Markwell
General Manager