

Central Coast Quarter 26-30 Mann Street, Gosford

Stage 1 - North Tower State Significant Development Application
Transport Impact Assessment



Prepared by: Stantec Australia Pty Ltd for SH Gosford Residential Pty Ltd
on 31/08/2021
Reference: N131975
Issue #: A

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Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
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1. INTRODUCTION

01

1.1. Background

A Concept State Significant Development Application (SSDA) has been determined by the Independent Planning Commission (The Commission) for a proposed staged mixed-use development on land located at 26 to 30 Mann Street, Gosford. The site is bounded by Mann Street to the east and Vaughan Avenue to the south.

This Transport Assessment is submitted to the Department of Planning, Industry and Environment (DPIE) on behalf of the SH Gosford Residential and in support of an application for SSD application number 23588910 at 26-30 Mann Street, Gosford. The SSDA seeks consent for:

- demolition of the existing retaining wall on site
- removal of three trees located at the site interface with Baker Street
- excavation to a depth of approximately 1.3 metres to accommodate the proposed ground floor structure
- earthworks to level the site in readiness for the proposed building
- construction of a 25-storey (26 level) mixed-use building, comprising:
 - 621sqm of retail gross floor area (GFA)
 - 136 apartments, equating to 13,263 square metres of residential GFA.
 - four parking levels for 183 cars, with vehicular access from Baker Street.
 - storage areas and services
 - communal open space
- publicly accessible through site link, including stairs, walkways, public lift, public art and landscaping.

This transport impact assessment has been prepared for Stage One, which is the Northern Tower, with subsequent documentation for the other development stages to be prepared separately to this report.

1.2. Purpose of This Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

- existing traffic and parking conditions surrounding the site
- suitability of the proposed parking in terms of supply (quantum) and layout
- service vehicle requirements
- pedestrian and bicycle requirements
- the traffic generating characteristics of the proposed development
- suitability of the proposed access arrangements for the site
- the transport impact of the development proposal on the surrounding road network.

This report addresses the transport-related conditions outlined in the Planning Secretary's Environmental Assessment Requirements issued 29 July 2021 in Table 1.1 and the Development Consent SSD 10114, dated 24 August 2020 provided in Table 1.2.

Table 1.1: Planning Secretary's Environmental Assessment Requirements

Section	Key Traffic and Transport Issue	Relevant Report Section
8	Traffic, Transport and Accessibility (Construction and Operational)	
	Traffic, Transport and Accessibility Impact Assessments must be prepared in consultation with Transport for NSW and Central Coast Council with comments addressed prior to lodgement, which is to include (but not be limited to) the following:	1.4
	An analysis of the existing traffic network, including the road hierarchy, current daily and peak hour vehicle, public transport, pedestrian and bicycle movements and existing performance levels of nearby intersections;	Section 3.2, 3.3, 3.4, 3.5, 3.7, 3.8
	The anticipated additional vehicular traffic generated from both the construction and operational stages of the project.	Table 8.1, Table 9.1
	The predicted transport mode share split for the development.	3.9, Table 3.5
	The distribution on the road network of the trips generated by the proposed development.	8.4
	It is requested that the predicted traffic flows are shown diagrammatically to a level of detail sufficient for easy interpretation.	Figure 8.1
	Consideration of the traffic impacts on existing and proposed intersections, in particular, Central Coast Highway and Dane Drive, Central Coast Highway and Vaughan Avenue, Central Coast Highway and Mann Street, Henry Parry Drive and Donnison Street, and the capacity of the local and classified road network to safely and efficiently cater for the additional vehicular traffic generated by the proposed development during both the construction and operational stages. The traffic impact shall also include the cumulative traffic impact of other proposed developments in the area.	8.3, 8.4
	Identify the necessary road network infrastructure upgrades that are required to maintain existing levels of service on both the local and classified road network for the development. In this regard, preliminary concept drawings shall be submitted with the EIS for any identified road infrastructure upgrades. However, it should be noted that any identified road infrastructure upgrades will need to be to the satisfaction of Transport for NSW and Council.	8.5
	Traffic analysis of any major / relevant intersections impacted, using SIDRA or similar traffic model, including: <ul style="list-style-type: none"> • Current traffic counts and 10 year traffic growth projections • With and without development scenarios • 95th percentile back of queue lengths • Delays and level of service on all legs for the relevant intersections • Electronic data for Transport for NSW review. 	8.4
	Details of car parking provision, having regard to relevant parking rates, specifications and standards.	5
	A vehicular servicing and management plan providing details of proposed vehicular access for off-street, loading, deliveries and servicing arrangements (including garbage collection), and any proposed infrastructure improvements or measures to reduce potential conflicts with pedestrians and cyclists. Swept path analysis for nominated service vehicles must also be provided.	7.1

INTRODUCTION

Section	Key Traffic and Transport Issue	Relevant Report Section
	Proposals to improve walking and cycling, such as connections into existing walking and cycling networks, high quality end-of-trip facilities and adequate bicycle parking for visitors, employees and residents (provided in accordance with the relevant rates, specifications and standards).	6.1, 6.2, 6.3, 6.4
	Measures to promote sustainable travel choices for employees, residents or visitors, such as minimising car parking provision, encouraging car share and public transport, cycling and walking, implementing a green travel plan and providing end of trip facilities.	10
	Any other impacts on the regional and state road network including consideration of pedestrian, cyclist and public transport facilities and provision for service vehicles.	N/A
	A draft Construction Traffic Management Plan providing details of predicted construction traffic movements, routes and access arrangements, and outline how construction traffic impacts on existing traffic, public transport, pedestrian and cycle networks would be appropriately managed and mitigated and how cumulative construction traffic impacts with other surrounding development would be managed and mitigated.	9
	As per the Transport for NSW response to SSD 10114 dated 28 April 2020: "Potential traffic and transport infrastructure improvements, including examination of left turn deceleration lane into Vaughan Avenue, and additional approach lane on Dane Drive shall be further investigated as part of future Traffic Impact Assessments."	8.5.4

Table 1.2: SSD 10114 Development Consent Conditions

Section	Key Traffic and Transport Issue	Relevant Report Section
Car Parking B3		
a)	Car parking for residential apartments shall be provided at a rate of no more than the requirements of the Gosford City Centre Development Control Plan 2018 and no less than the requirements of the Roads and Maritime Guide to Traffic Generating Developments 2002, to be determined in future development application(s) in accordance with the requirements of Future Environmental Assessment Requirements (FEAR) C21 to C23.	Section 5.1
b)	Car parking for 'commercial activities' as defined in State Environmental Planning Policy Gosford City Centre 2018 (GSEPP) shall be provided at the rate in accordance with clause 8.5 of the GSEPP	Section 5.1
Traffic and transport C21	Future development application(s) shall be accompanied by a Traffic Impact Assessment (TIA) that assessed the traffic, transport and pedestrian impacts on the road and footpath networks and nearby intersection capacity. The TIA shall also address:	
a)	Traffic generation impacts and any necessary road infrastructure upgrades to adjoining and nearby roads and intersections	Section 8.4
b)	Vehicle and pedestrian safety within and around the site	Section 8.5
c)	Loading/ unloading, servicing, coach, pick-up drop-off arrangements	Section 7.1

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Section	Key Traffic and Transport Issue	Relevant Report Section
d)	On-site car parking provision, location, access and operation	Section 5.1
e)	The impact of the removal of any existing on-street car parking spaces	Section 8.5
f)	Pedestrian and bicycle infrastructure and facilities	Section 6
g)	The development's relationship to, and impact on, the Baker Street extension	Section 3.2.2, 8.4
h)	Access, use and safety of any hotel porte-cochere (if proposed)	N/A
i)	And Gosford City Centre Transport Plan (including draft plan)	N/A refer Section 1.4
C22	<p>Future development applications(s) shall include a Car Parking Assessment Report (CPAR) that includes a detailed assessment of car parking demand and impacts to confirm the most appropriate number of on-site car parking spaces for the development. In proposing the final car parking rate for the site, the CPAR shall:</p> <ul style="list-style-type: none"> a) Consider any existing or draft car parking study or guideline applying to the Central Coast Council local government area b) Provide on-site car parking for residential apartments at a rate no more than the requirements of the Gosford City Centre Development Control Plan 2018 and no less than the requirements of the Roads and Maritime Guide to Traffic Generating Developments 2002 c) Provide parking for 'commercial activities' as defined in the GSEPP at a rate no less than clause 8.5 of the GSEPP d) Undertake a needs-based car parking assessment for the development e) Undertake parking surveys (or consider existing recent surveys that may have been undertaken) examining the existing parking pressure on surrounding streets and parking facilities f) Analysis existing and projected car ownership details of residents within Gosford and the development g) Compare the proposal with other existing and approved developments within Gosford and other similar NSW regional centres h) Consider green travel plan initiatives i) Consider any Gosford City Centre Transport Plan (including draft plan) 	Refer to Car Parking Assessment Report (CPAR)
C23	Future development application(s) shall propose on-site car parking at a rate consistent with the findings / conclusions of the CPAR (FEAR C22), with the final parking rate to be determined by the consent authority	Refer to Car Parking Assessment Report (CPAR)
C24	Future development application(s) shall include green travel plans, identifying opportunities to maximise the use of sustainable transport choices.	Section 10
Bicycle parking and facilities C25	Future development application(s) shall include bicycle parking for residents/ employees/ visitors and end of trip facilities (toilets, change/locker rooms and shower) in accordance with the Gosford City Centre Development Control Plan 2018. Wayfinding / signage shall be provided as appropriate.	Section 6.1, 6.2
C26	Future development application(s) shall explore opportunities to exceed the Gosford City Centre Development Control Plan 2018 visitor bicycle parking requirements to encourage sustainable modes of transport.	Section 6.1

1.3. Agency Consultation

GTA has completed initial consultation with Transport for NSW and Central Coast Council regarding the Stage 1 development as outlined in Table 1.3.

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Table 1.3: Agency Consultation

Name, Organisation, Position	Date	Details
<p>Steven Green Development Traffic and Transport Engineer Central Coast Council</p> <p>Scott Stapleton Team Leader – Traffic Central Coast Council</p>	<ul style="list-style-type: none"> 15/10/2020 23/10/2020 9/11/2020 24/03/2021 	<ul style="list-style-type: none"> An initial phone call was made on 15 October to Steven Green to obtain an update on the progress of the Gosford City Centre Transport Plan to understand the status of the traffic modelling being prepared and whether there were any proposed road improvements that needed to be incorporated into the modelling for this development. Follow up emails were sent on the 23/10/2020 and 9/11/2020 to both Steven Green and Scott Stapleton seeking a response. Scott Stapleton has confirmed on 24/03/2021 that the Gosford City Centre Transport Plan project is on hold with no fixed date for resumption.
<p>Marc Desmond Transport for NSW</p> <p>Kumar Kuruppu Transport for NSW</p>	<ul style="list-style-type: none"> 12/11/2020 	<ul style="list-style-type: none"> Consultation was undertaken Transport for NSW during the Concept Masterplan Stage. A follow up email was issued on 12 November to advise Transport for NSW that we are now progressing with the Stage 1 DA for the site and seeking any update on the Gosford City Centre Transport Plan and any progress of traffic modelling for the Gosford CBD.

1.4. References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds
- traffic surveys undertaken by Matrix as referenced in the context of this report
- plans for the proposed development prepared by DKO Architects, dated 15/03/2021
- 32 Mann Street, Gosford Traffic Impact Assessment, prepared by Cardno 29 April 2016 (Cardno Report)
- Cardno Technical Traffic Addendum 12 August 2016
- Leagues Club Field and Gosford City Park Master Plan TIA, prepared by TTPP May 2019
- Gosford City Centre Development Control Plan (DCP) 2018¹
- Gosford City Council Local Environmental Plan (LEP) 2014
- State Environmental Planning Policy (Gosford City Centre) 2018
- Gosford City Centre Transport Management and Accessibility Plan 2010
- Roads and Maritime Services “Guide to Traffic Generating Developments” 2002 and TDT 2013/04 Updated Traffic Surveys
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2018
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009
- Gosford Bike Strategy 2014
- Future Transport Strategy 2056 and supporting plans
- State Infrastructure Strategy 2018 – 2038
- Central Coast Regional Plan 2036
- other documents and data as referenced in this report.

¹ <https://www.planning.nsw.gov.au/-/media/Files/DPE/Plans-and-policies/Gosford-city-centre-development-control-plan-dcp-2018-17202018.pdf>

2. STRATEGIC CONTEXT

02

2.1. State Government Policies

2.1.1. Future Transport Strategy 2056

The Future Transport Strategy (Future Transport) is a 40-year strategy for Sydney and Regional NSW prepared by Transport for NSW in response to the expected population and economic growth in NSW as well as provides an understanding of the future of transportation.

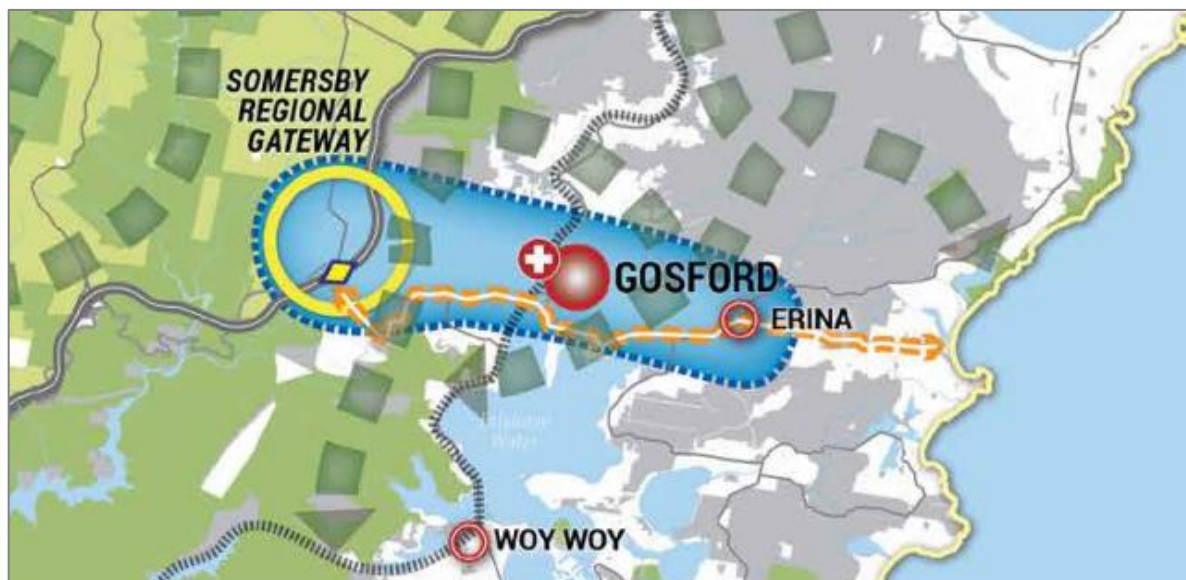
Future Transport identifies Gosford as a 'satellite city', outside of, but closely related to the Greater Sydney Region. Transport for NSW envisions that population and economic growth in these areas will happen and fast transit considerations are in place. Notably, Gosford is envisioned to be provided transit frequencies at a 'turn up and go' frequency – that is, services will carry large numbers of customers on predictable and reliable services without timetables.

2.1.2. Central Coast Regional Plan

The Central Coast Regional Plan (herein referred to as 'The Plan') was released in October 2016 and outlines the vision and goals for the Central Coast region, with Gosford as its Regional City. The Plan is intended to guide land use planning and inform the determination of development proposals and infrastructure funding decisions.

The area between the Somersby Regional Gateway and Erina has been identified as a Regional Growth Corridor with Gosford City Centre at its core. Infill high density housing is anticipated in these locations together with a variety of land uses including health, retail, commercial and sporting/ recreational uses ensuring good diversity, as illustrated in Figure 2.1. The Gosford City Core and the intended various precincts are detailed in Figure 2.2.

Figure 2.1: Draft Central Coast Regional Plan overview



Source: Central Coast Regional Plan, Figure 3, p.11

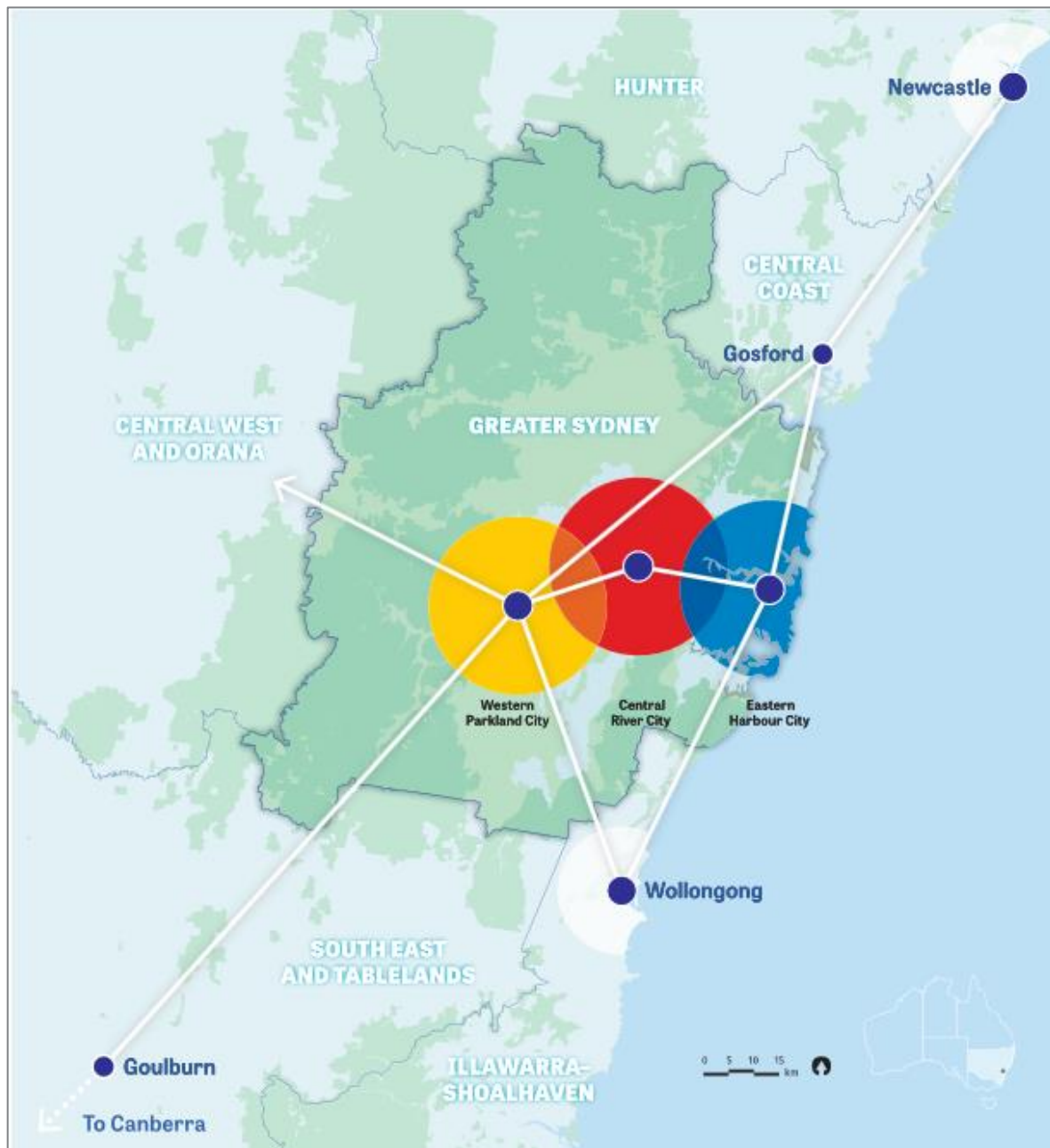
Figure 2.2: Gosford City Centre



Source: Central Coast Regional Plan, Figure 4, p.17

Gosford's strategic and transport relationship to Sydney is well recognised and illustrated in Figure 2.3. In this regard, Future Transport Strategy 2056 (March 2018) projects that economic and housing growth around Greater Sydney will establish Gosford as a 'satellite city' to Sydney. To support Gosford as a satellite city, improvements to existing transport connections will be required and, in the longer term, consideration of higher speed rail.

Figure 2.3: Greater Sydney regional context



Source: The Greater Sydney Regional Plan, Figure 31

2.2. Local Context

2.2.1. Gosford City Centre Transport Management and Accessibility Plan

The Gosford City Centre Transport Management and Accessibility Plan (TMAP) suggests public transport network improvements to encourage greater modal shift to public transport, walking and cycling in the Greater Gosford area, providing better connectivity and mobility within the city.

Examples of suggested projects include improved cycle and pedestrian connectivity across the railway bridges on Etna Street and Donnison Street, and improved pedestrian connectivity from the waterfront to the city centre, which both projects will greatly enhance pedestrian mobility between the site and surrounding areas within the Gosford City Centre.

In particular, the revision of parking rates and supply along with the investigation into improved bicycle parking and end of trip facilities for workers in Gosford has been identified as a key focus for the connectivity of Gosford, which would both greatly encourage modal shift.

2.3. Car Parking Assessment Report

A Car Parking Assessment Report (CPAR) has been prepared by GTA as a separate standalone document. A summary of the report is as follows:

- The proposal demonstrates that a total of 183 parking spaces can be provided. 16 spaces would be dedicated to commercial/retail uses in compliance with the GSEPP parking requirement. The residential component of the development is in compliance with the Transport for NSW rates and therefore satisfies the Development Consent conditions.
- Given the location of the site being within the Gosford CBD and well serviced by public transport there will be a natural tendency for less reliance on private vehicles and as such, the parking provisions are considered appropriate. Any parking demand generated by the proposed development is expected to be accommodated on-site. Linked trip demands resulting from nearby land-uses are existing trips and existing parking demand that is already contributing to the parking demand of the CBD.
- Analysis of the surrounding parking conditions indicates there are concerns of on-street parking demand during weekdays, however, this is an existing issue being addressed with recommendations as part of the Central Coast Council Car Parking Study 2020.
- The proposed development is not expected to exacerbate the current parking conditions in the area with on-site parking provisions considered appropriate for both residential and non-residential uses along with Green Travel Planning initiatives to encourage mode shift and car sharing to be implemented within the development.

3. EXISTING CONDITIONS

03

3.1. Location

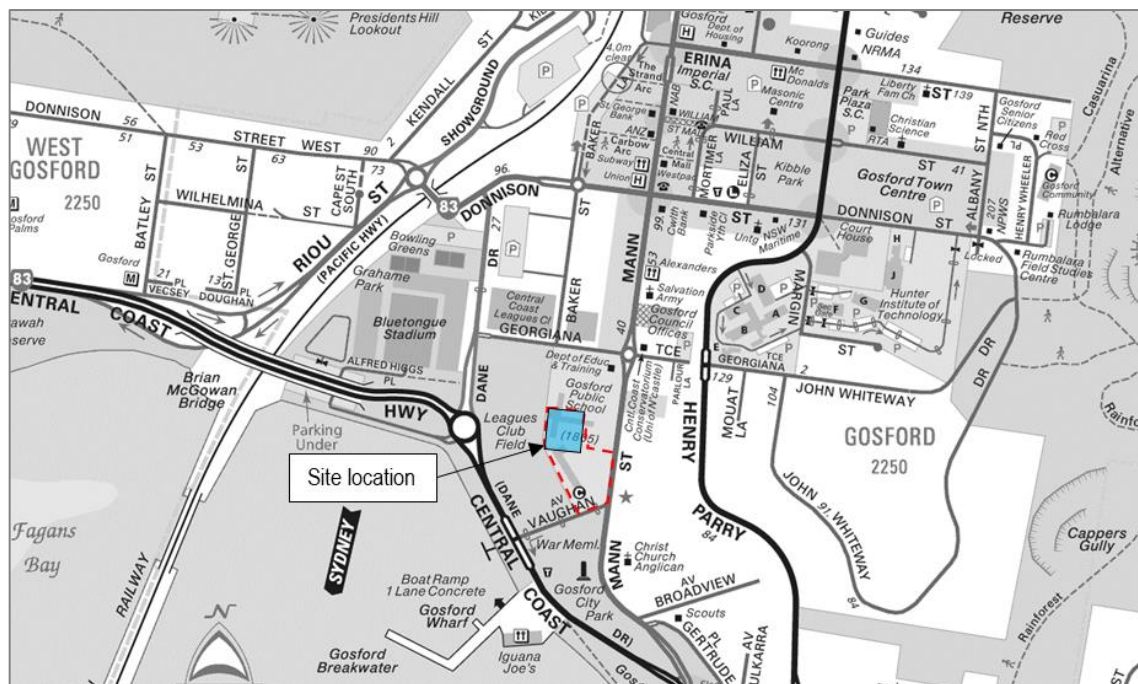
The overall subject site is located at 26-30 Mann Street, Gosford. The site is around 9,844 square metres with a frontage of 105 metres to Mann Street to the east and is bounded by Vaughan Avenue to the south. Stage One would be located at the northern end of the site adjacent to the existing commercial building as identified in Figure 3.1.

Stage One will be accessed from the existing section of Baker Street through an existing driveway that provides access to the commercial building. Ultimately at completion of all stages the main access for the entire site would be via Vaughan Avenue, with the secondary access from Baker Street.

The site has a land zoning as B4 - Mixed Use. The surrounding properties predominantly include commercial, mixed-use and residential uses.

The location of the subject site and its surrounding environs is shown in Figure 3.1. The red dashed outline represents the site area encompassed by the overall development (all three towers). The blue shading represents the Stage One development.

Figure 3.1: Subject site and its environs



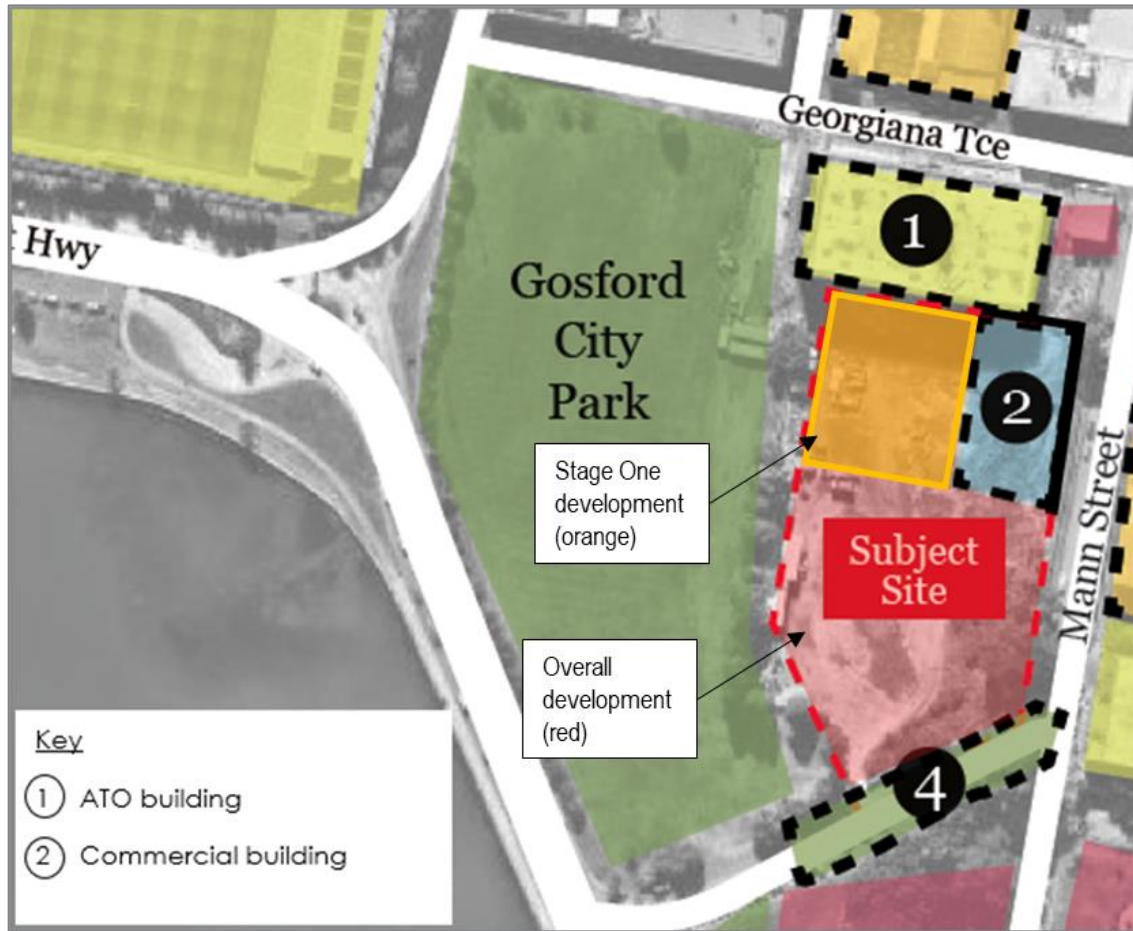
Base image source: Sydney

Figure 3.2 provides an understanding of the site context.

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Figure 3.2: Site context



Source: DKO Architecture dated 16 February 2018

3.2. Transport Network

3.2.1. Road Hierarchy

Roads are classified according to the functions they perform. The main purpose of defining a road's functional class is to provide a basis for establishing the policies which guide the management of the road according to their intended service or qualities.

In terms of functional road classification, State roads are strategically important as they form the primary network used for the movement of people and goods between regions, and throughout the State. Transport for NSW (formerly Roads and Maritime Services) is responsible for funding, prioritising and carrying out works on State roads. State roads generally include roads classified as freeways, state highways, and main roads under the Roads Act 1993, and the regulation to manage the road system is stated in the Australian Road Rules, most recently amended on 19 March 2018.

Transport for NSW defines four levels in a typical functional road hierarchy, ranking from high mobility and low accessibility, to high accessibility and low mobility. These road classes are:

Arterial Roads – Controlled by Transport for NSW, typically no limit in flow and designed to carry vehicles long distance between regional centres.

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Sub-Arterial Roads – Managed by either Council or Transport for NSW under a joint agreement. Typically, their operating capacity ranges between 10,000 and 20,000 vehicles per day, and their aim is to carry through traffic between specific areas in a sub region or provide connectivity from arterial road routes (regional links).

Collector Roads – Provide connectivity between local sites and the sub-arterial road network, and typically carry between 2,000 and 10,000 vehicles per day.

Local Roads – Provide direct access to properties and the collector road system and typically carry between 500 and 4,000 vehicles per day.

3.2.2. Surrounding Road Network

Central Coast Highway

The Central Coast Highway is a state arterial road under the authority of Transport for NSW and near the site is aligned in a north-south direction. Between Dane Drive and Mann Street the Central Coast Highway is a divided two-way road configured with two lanes in each direction within a carriageway of around 15 metres. It has a posted speed limit of 60 kilometres per hour in the study area and carries around 30,000 vehicles per day.

Mann Street

Mann Street functions as a collector road which borders the eastern side of the development and is generally aligned in a north-south direction. Mann Street is a two-way road configured with one lane in each direction with a carriageway of around 13 metres. It has a posted speed limit of 40 kilometres per hour adjacent to the site and carries around 8,000 vehicles per day.

Kerbside parking is permitted for one hour on the western side and four hours on the eastern side of Mann Street on weekdays (8:30am to 6:00pm) and on Saturday (8:30am to 12:30pm). Parking on Mann Street is unrestricted at other times.

Mann Street is shown in Figure 3.3 and Figure 3.4.

Figure 3.3: Mann Street (facing north)

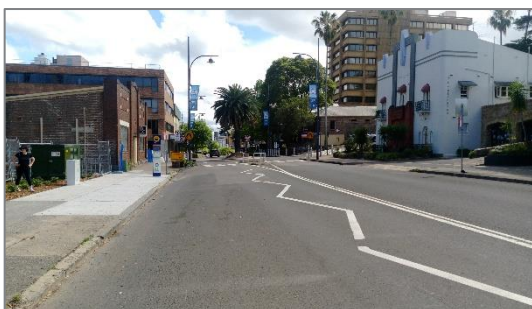
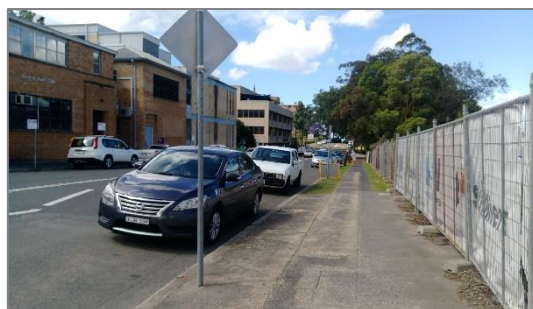


Figure 3.4: Mann Street (facing south)



Georgiana Terrace

Georgiana Terrace functions as a collector road connecting Mann Street to Dane Drive in an east-west direction. It is a two-way road configured with one lane in each direction within a carriageway of around 12-metres. Georgiana Terrace has a posted speed limit of 40 kilometres per hour in the study area and carries around 3,000 vehicles per day.

Kerbside parking is permitted for one hour between Mann Street and Baker Street, and two hours between Baker Street and Dane Drive on weekdays (8:30am to 6:00pm) and on Saturdays (8:30am to 12:30pm). Parking on Georgiana Terrace is unrestricted at other times.

Vaughan Avenue

Vaughan Avenue functions as a local road connecting Mann Street to the Central Coast Highway on the southern boundary of the site. It is a two-way road, with one lane in each direction, set within a carriageway of around 12 metres.

Kerbside parking is permitted for four hours on weekdays (Monday to Friday 8:30am to 6:00pm) and on Saturdays (8:30am to 12:30pm). A section of 90-degree angled parking is provided on the southwestern end of Vaughan Avenue also with four-hour parking restrictions. The connection from the Central Coast Highway to/ from Vaughan Street is through a left in/left out arrangement only.

Vaughan Avenue is shown in Figure 3.5 and Figure 3.6.

Figure 3.5: Vaughan Avenue (facing west)



Figure 3.6: Vaughan Avenue (facing south)



Baker Street

Baker Street (south of Georgiana Terrace) was previously constructed to provide access to the ATO Building and the commercial building at 32 Mann Street as shown in Figure 3.3. This section of Baker Street has recently been converted to one way and has now been extended through to Vaughan Avenue as part of the Gosford City Park Project.

Baker Street is now a one-way (southbound) road, providing a 3.5 metre wide travel lane and adjacent 2.5 metre wide parking lane (interspersed with tree planting) along the eastern side of Baker Street. Baker Street provides for 18 on street parallel parking spaces of which four are designated as accessible spaces. Baker Street is also signposted as a shared zone with a 10 kilometre per hour speed limit.

Baker Street is shown in Figure 3.7 and Figure 3.8.

Figure 3.7: Baker Street (facing south)



Figure 3.8: Baker Street (facing south)



3.2.3. Surrounding Intersections

The following intersections currently exist near the site:

- Georgiana Terrace/ Dane Drive
- Georgiana Terrace/ Baker Street
- Georgiana Terrace/ Mann Street
- Vaughan Avenue/ Mann Street
- Central Coast Highway/ Dane Drive
- Central Coast Highway/ Mann Street.

3.3. Traffic Volumes

GTA commissioned traffic movement counts at key intersections on Tuesday 28 November 2017 during the following peak periods:

- 7:00am and 10:00am
- 4:00pm and 7:00pm.

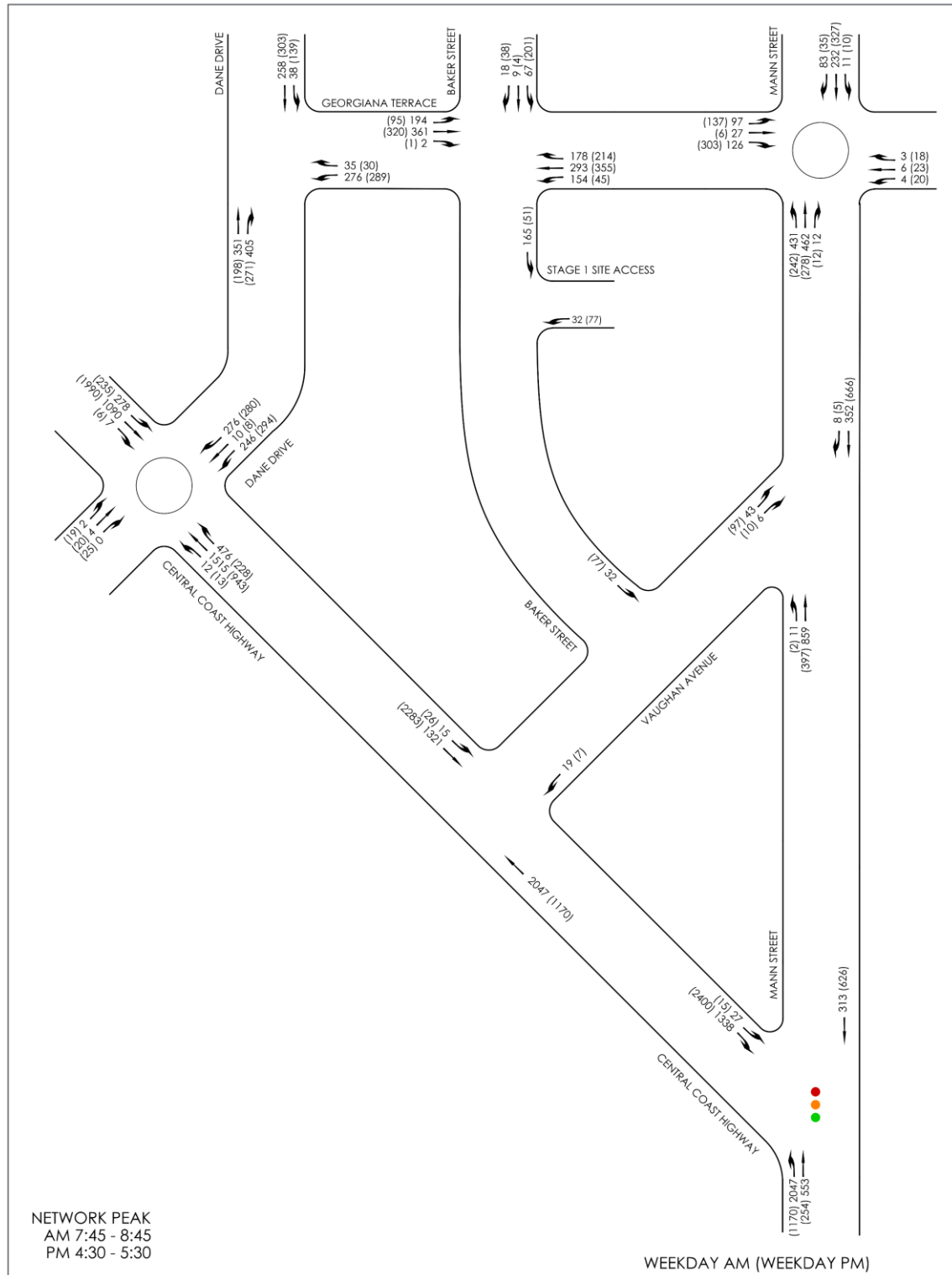
It is noted that at the time of the traffic surveys the Baker Street extension and commercial building at 32 Mann Street were not constructed. With Baker Street recently being constructed through to Vaughan Avenue as part of the Gosford City Park project, traffic associated with the ATO building and commercial building at 32 Mann Street have been redistributed to account for the changed road network.

The AM and PM peak hour traffic volumes are summarised in Figure 3.9, with full results contained in Appendix A.

3.4. Growth Rates

To provide an understanding of current 2021 traffic conditions the 2017 surveyed volumes have had an annual compounding growth rate of two per cent per annum applied to provide a 2021 existing conditions scenario. Additionally, the adjacent ATO site and commercial building at 32 Mann Street have been added to the base volumes. This is considered a suitable representation of 2021 base volumes, if anything likely to be conservative due to impacts from COVID (which has resulted in a decrease in traffic in typical volumes in the CBD).

Figure 3.9: Existing AM/ PM network peak hour traffic volumes



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3.5. Intersection Operation

The operation of the key intersections within the study area have been assessed using SIDRA Intersection², a computer-based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by Transport for NSW, is vehicle delay. SIDRA Intersection determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 3.1 shows the criteria that SIDRA Intersection adopts in assessing the level of service.

Table 3.1: SIDRA INTERSECTION level of service criteria

Level of Service (LOS)	Average Delay per vehicle (secs/ veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

Table 3.2 presents a summary of the existing operation of the intersection, with full results presented in Appendix B of this report.

² Program used under license from Akcelik & Associates Pty Ltd.

Table 3.2: Existing operating conditions (2020)

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Georgiana Terrace/ Dane Drive	AM	0.38	19	14	B
	PM	0.34	12	12	A
Georgiana Terrace/ Baker Street	AM	0.23	28	6	B
	PM	0.52	39	23	C
Georgiana Terrace/ Mann Street	AM	0.33	9	15	A
	PM	0.10	12	4	A
Mann Street/ Vaughan Avenue	AM	0.13	18	3	B
	PM	0.13	14	3	A
Central Coast Highway/ Dane Drive	AM	0.93	41	122	C
	PM	1.94	>200	>200	F
Central Coast Highway/ Mann Street	AM	0.78	14	149	A
	PM	0.89	19	171	B

Table 3.2 indicates that all intersections analysed, except for the intersection of the Central Coast Highway and Dane Drive, currently operate at an acceptable level of service with spare capacity. The intersection of Central Coast Highway and Dane Drive is currently controlled by a dual lane roundabout and experiences extensive queuing on the Central Coast Highway eastbound in the PM peak which results in queueing on Dane Drive. Site observations during the peak period noted queues extending around 200 metres, however gaps were provided for vehicles to enter and exit Georgiana Terrace at Dane Drive.

3.6. Transport Studies

A traffic impact assessment for the commercial building recently constructed at 32 Mann Street was prepared by Cardno in April 2016. Cardno prepared an addendum in August 2016 in response to comments from Transport for NSW. The Cardno traffic assessment and addendum were considered while preparing this traffic impact assessment for the staged concept masterplan.

3.6.1. Gosford City Park Masterplan

A traffic and parking impact assessment for the existing Gosford Leagues Club field site adjacent was prepared by The Transport Planning Partnership (TPPP) in May 2019. The site has recently been repurposed into a new civic park that includes a regional playground and the extension of Baker Street to provide a pedestrian and/or vehicular link.

As part of the park development, Baker Street has been extended through to Vaughan Avenue. The previous section from Georgiana Terrace to the 32 Mann Street driveway that was a two way section of road has now been reconstructed as a one-way shared zone between Georgiana Terrace and Vaughan Avenue.

The TPPP assessment does not outline the expected traffic generation for the proposed Gosford City Park redevelopment and the SIDRA assessment is based on the total traffic that Baker Street should carry under each scenario. Based on this, it is assumed that the proposed park itself would not be a traffic generator but

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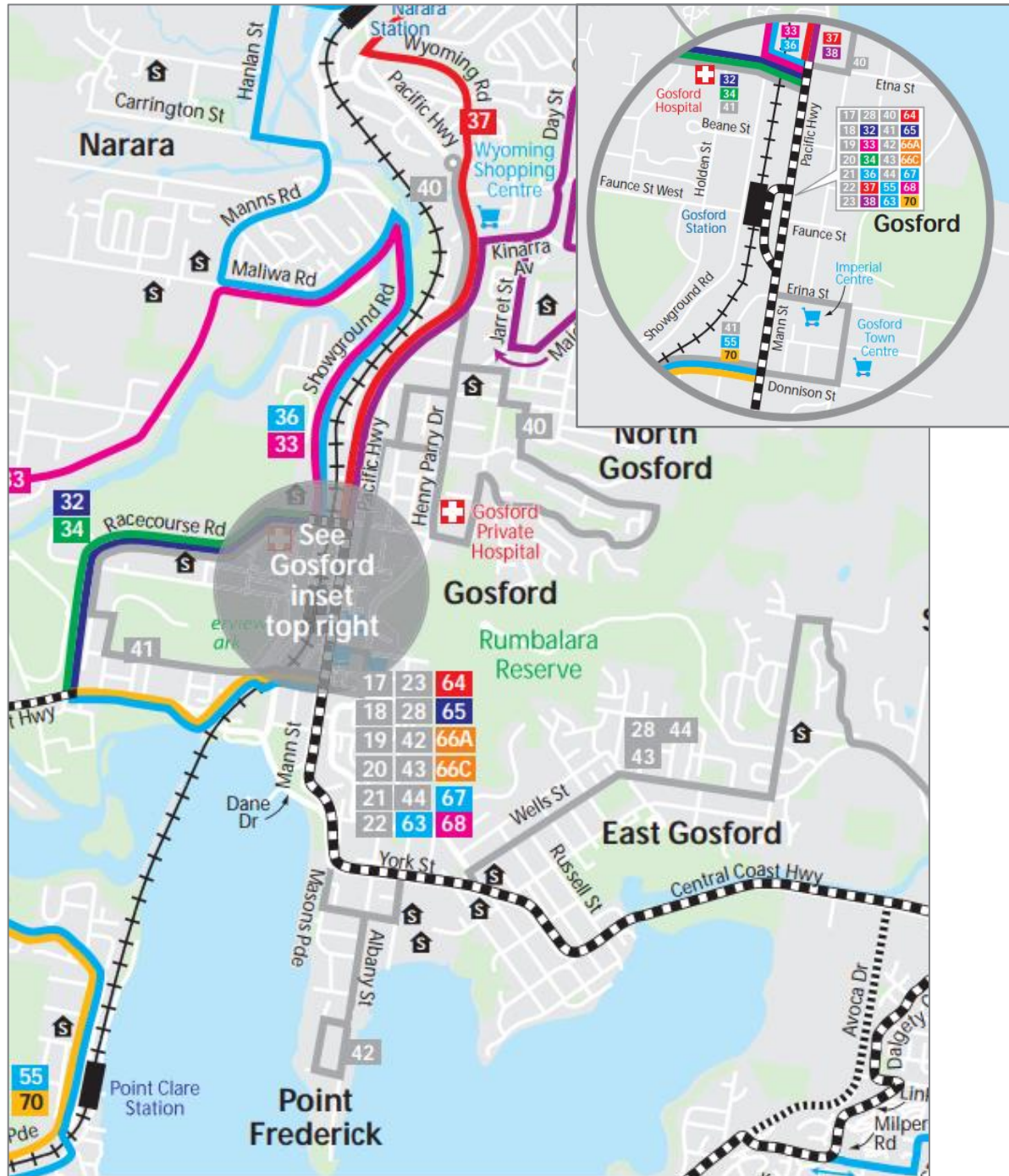
serve the local area and community as a linked destination and therefore traffic associated with the Gosford City Park is likely to park in existing parking buildings/ on street parking spaces around the CBD.

It is noted there is no assessment included in the TTPP traffic report regarding the adequacy of existing and approved traffic volumes on Baker Street being suitable for a shared zone.

3.7. Public Transport

The site is well serviced by public transport. The site is located nearby high frequency bus services which serve the Central Coast area by providing direct connections to and from Gosford CBD and train station. The site is within 600 metres of Gosford train station. Bus services are shown in Figure 3.10.

Figure 3.10: Surrounding public transport network



Source: <https://www.busways.com.au/sites/default/files/network-maps/2019-03-11/Central%20Coast%20Network%20Map.pdf>

A review of the public transport available near the site is summarised in Table 3.3.

Table 3.3: Public transport provision

Service	Route #	Route Description	Location of Stop	Distance to Nearest Stop (metres)	Frequency On/ Off Peak
Bus	See Map	Connection between Gosford CBD and Central Coast Area	Mann St before Georgiana Terrace	50	Up to 18 services/hour
Train	CCN	Newcastle to Sydney/ Sydney to Newcastle	Gosford Railway Station	600	7 services per hour/ 2 services per hour

3.8. Pedestrian and Cycling Infrastructure

The site and its surroundings are well connected by pedestrian infrastructure.

Pedestrian paths are located as follows:

- Mann Street (both sides)
- Georgiana Terrace (both sides)
- Dane Drive (both sides)
- Central Coast Highway (both sides)
- Vaughan Avenue (northern side on eastern end and southern side throughout)
- Baker Street between Georgiana Terrace and Vaughan Avenue is a shared zone.

Crossing facilities near the site include the following pedestrian crossings:

- Vaughan Avenue near the Central Coast Highway
- Vaughan Avenue near Mann Street
- On the eastern and southern approaches of the Mann Street/ Georgiana Terrace roundabout
- Georgiana Terrace near the Georgiana Terrace/ Baker Street intersection
- Baker Street near the Georgiana Terrace/ Baker Street intersection.

A total of eight bike rails have recently been installed in the new Gosford Waterfront Park adjacent to the site.

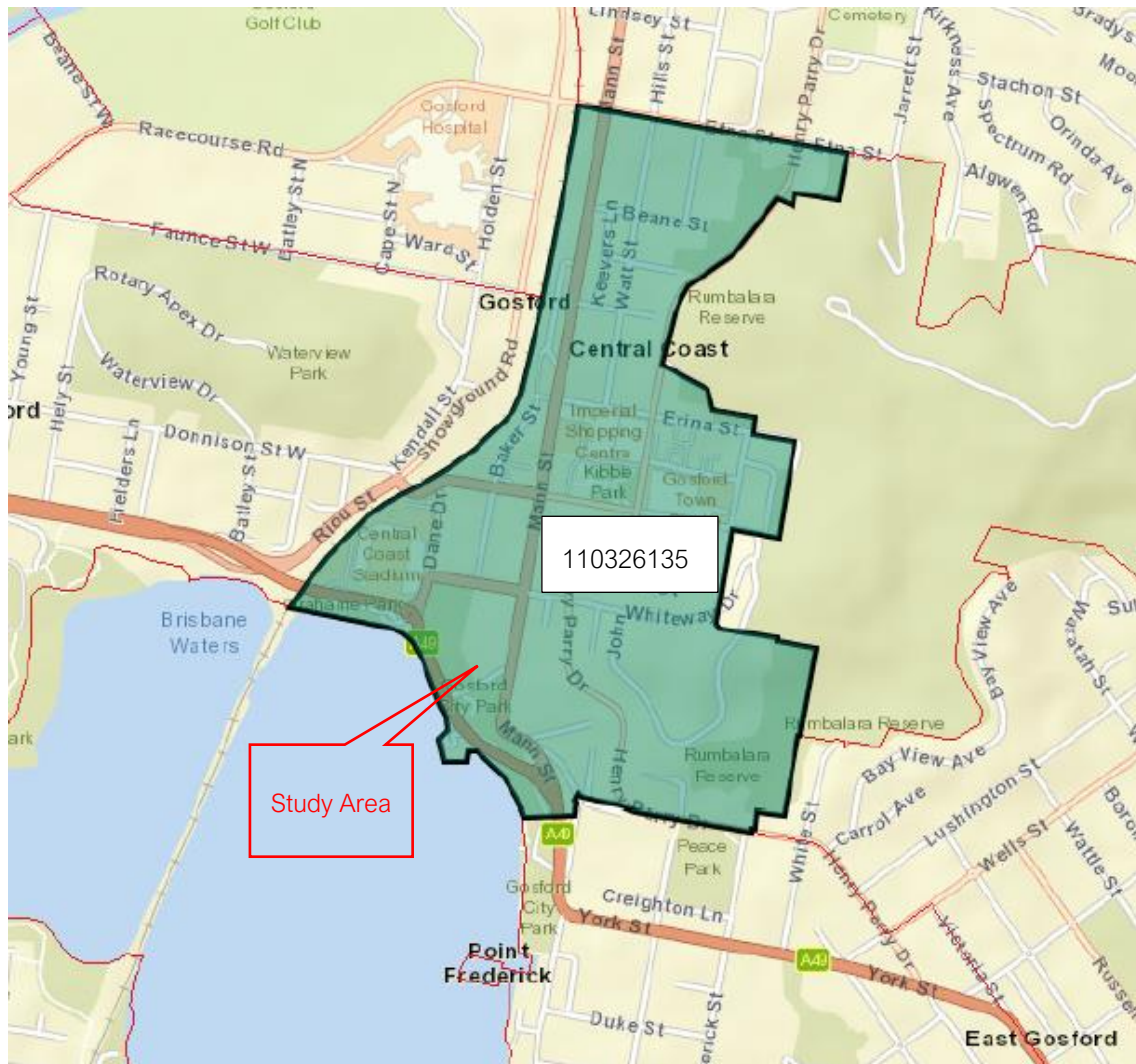
3.9. Existing Travel Behaviour

3.9.1. Place of Work

2016 census data from Australia Bureau Statistics (ABS), shows the seven existing Journey to Work (JTW) patterns for those who work in Destination Zone (DZ)³ 110326135. The study area is contained in the DZ as shown in Figure 3.11.

³ Destination zones (DZNs) are the spatial unit used to code Place of Work (POWP) and are an aggregation of 2016 Mesh Blocks. In 2016, DZN boundaries have been designed by the ABS following consultation with each State/Territory Transport Authority.

Figure 3.11: Location and Extent of Destination Zone



Source: <https://www.abs.gov.au> , accessed 23 October 2020

JTW data as summarised in Table 3.4, indicates that the main mode of travel for workers in the area is by car, with 83 per cent driving to work and four per cent as passengers in a vehicle. Public and active transport mode share percentage are only nine per cent for this destination zone. The table also shows almost no one rode a bicycle to and from the DZ for work.

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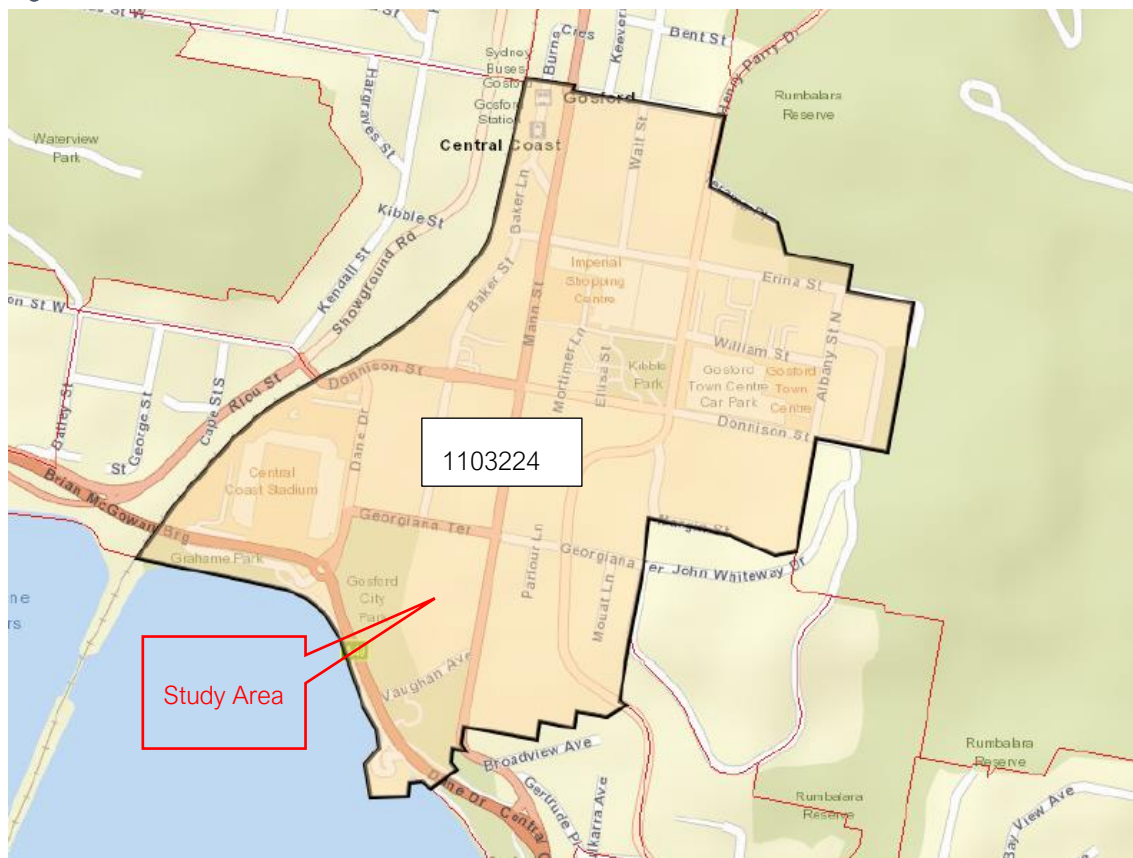
Table 3.4: JTW, Place of work at the DZ

Mode	Mode share (%)
Train	5%
Bus	2%
Car, as driver	83%
Car, as passenger	4%
Motorbike/scooter	1%
Bicycle	0%
Walked only	2%
Other	2%
Total	100%

3.9.2. Place of Usual Residence

Figure 3.12 shows Statistical Area Level One (SA1)⁴ polygon which the study area is located within the SA1.

Figure 3.12: Location and Extent of Statistical Area One



Source: Census of Population and Housing, 2016, TableBuilder, accessed 23 October 2020

⁴ Statistical Areas Level 1 (SA1) are geographical areas built from whole Mesh Blocks. The SA1s have generally been designed as the smallest unit for the release of census data. SA1s have a population of between 200 and 800 people with an average population size of approximately 400 people.

Data obtained from ABS relating to residents' travel to work within the SA1, is summarised in Table 3.5. This table shows the primary mode of transportation used by residents was private vehicle, accounting for 65 per cent of journey to work trips made. However, 22 per cent of trips made by public transport compare to 11 per cent of trips which made by walking to/from work. The data also shows almost no one undertook riding a bicycle to work as their travel mode.

Table 3.5: JTW, Residents with the SA1 polygon

Mode	Mode share (%)
Train	18%
Bus	4%
Car, as driver	59%
Car, as passenger	6%
Bicycle	0%
Walked only	11%
Other	2%
Total	100%

4. DEVELOPMENT PROPOSAL

04

4.1. Land Uses

This proposal is for a mixed-use multi-storey development (“Northern Tower”) which forms part of the staged concept masterplan for the site known as 26-30 Mann Street. This tower comprises the following land uses:

- Residential: 136 apartments
- Retail: 621 square metres of retail GFA.

4.2. Development Vehicle Access

4.2.1. Stage 1 – North Tower

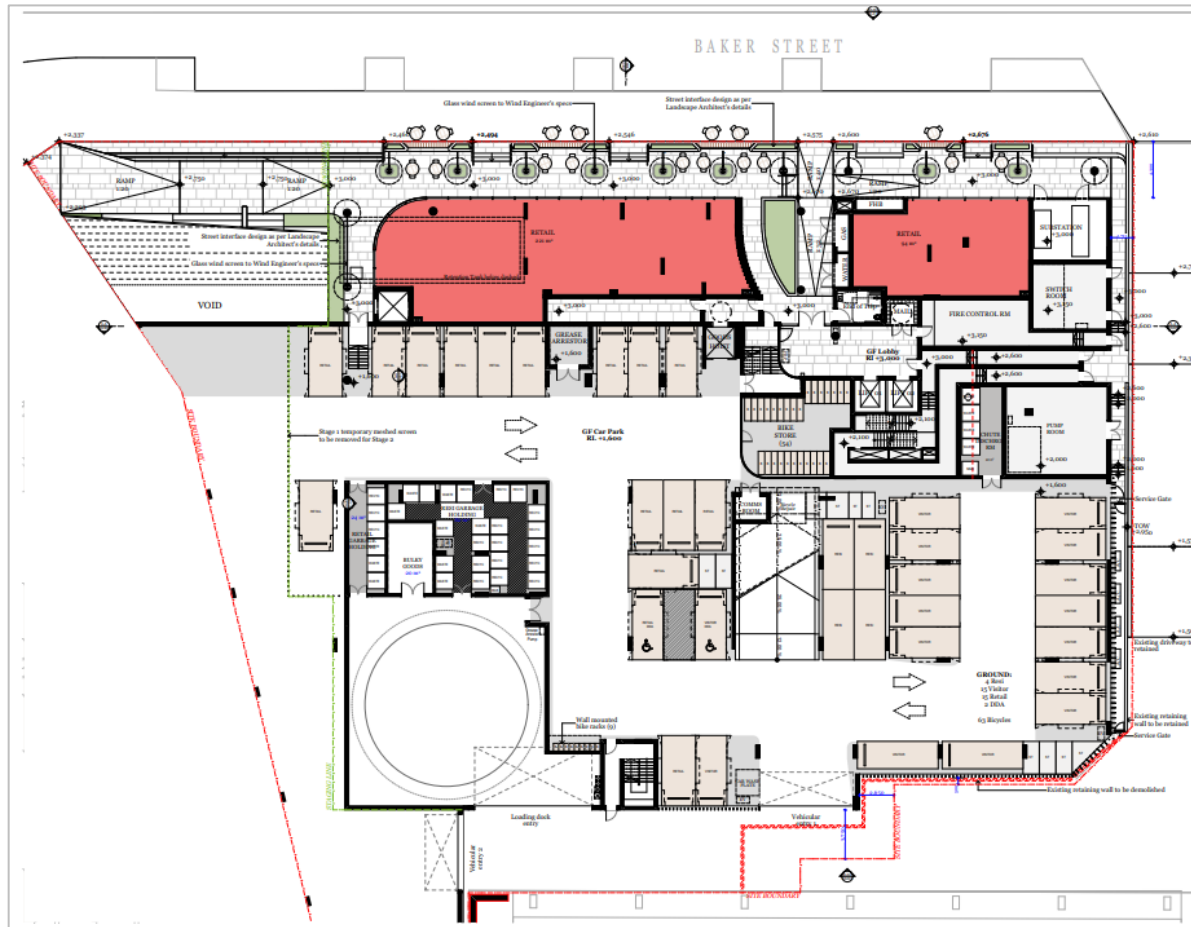
Access to the development is proposed through an existing driveway on Baker Street as shown in Figure 4.1.

The largest size vehicle which will access the site would be a 12.5 metre Heavy Rigid Vehicle (HRV). Swept path assessments are provided in Appendix C.

4.2.2. Future Stages – South Tower and Hotel

A new access is proposed on Vaughan Avenue to access the parking levels for future stages, in conjunction with the construction of the South Tower and the Hotel. A connection to the North Tower car parking would also be provided.

Figure 4.1: Proposed entry/ exit arrangements ground level



Source: DKO Architecture (NSW) Pty Ltd, dated August 2021

4.3. Car Parking

As part of the North Tower development, 183 parking spaces are proposed to be provided.

The suitability of the car parking provision and layout is discussed in Section 5 of this report.

4.4. Pedestrian and Bicycle Facilities

The established footpaths surrounding the site provide an adequate level of pedestrian amenity.

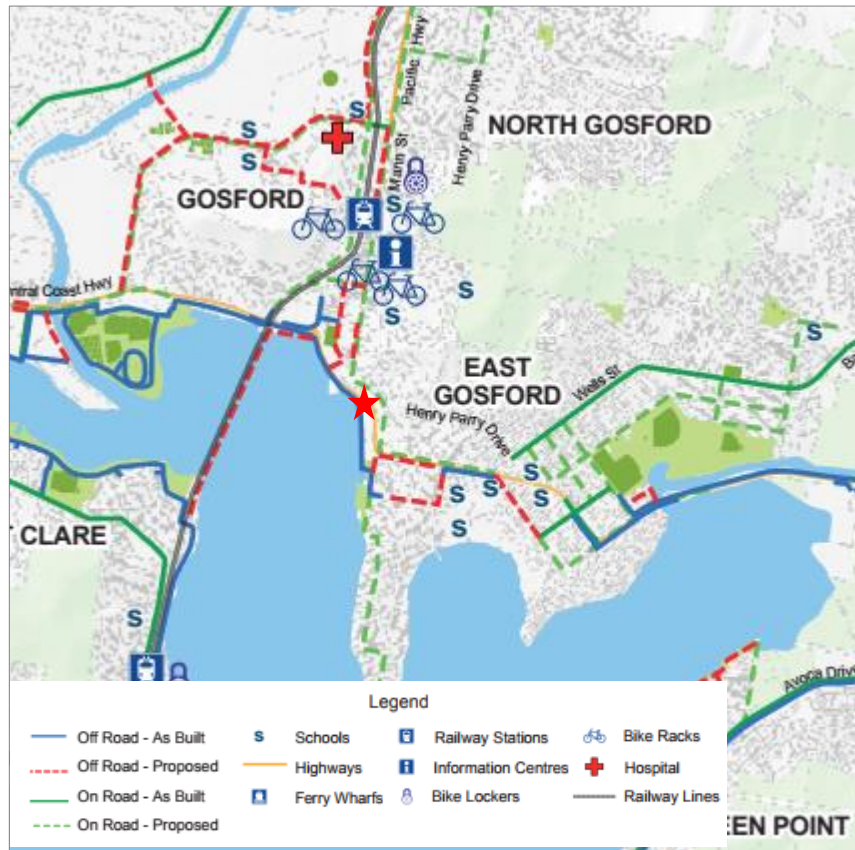
The proposal plans to provide bicycle facilities within the development and the suitability of the bicycle provisions is discussed in Section 6.4 of this report.

Council has a cycling strategy for Gosford which includes a proposed on-road path around the site, as shown in Figure 4.2, the implementation of this would support the objective of the development.

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Figure 4.2: Proposed state strategic bike plan



Source: Gosford Bike Strategy 2014

4.5. Loading Areas

One centralised loading and waste collection area is proposed for the development. This will be constructed as part of the first stage, with future development stages (i.e. South Tower and Hotel) also utilising this loading area following their completion. This loading area will be accessed through the existing driveway on Baker Street at the northern end of the site as shown in Figure 4.1.

The loading area is available for use of vehicles of up to and including 12.5-metre-long heavy vehicles with turntable operation to ensure vehicles can exit the site in a forward direction.

The suitability of the proposed loading arrangements is discussed in Section 7 of this report.

5. PARKING AND LAYOUT ASSESSMENT

05

5.1. Parking Requirements

5.1.1. Transport for NSW (Roads and Maritime) Guidelines

The NSW Department of Planning and Environment have released the Apartment Design Guide (ADG) that provides commentary on acceptable levels of car parking provision. The ADG states *that for developments either:*

- within 800 metres of a railway station or light rail stop in Sydney Metropolitan Area; or
- on land zoned, or within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre,

the lesser resident and/ or visitor car parking rate of either the “Guide to Traffic Generating Development” (October 2002) or the relevant Council’s requirements can be used.

Given the site is located less than 650 metres from regular rail services at Gosford railway station, and on land zoned B4 Mixed Use an assessment of the parking requirements for residents and visitors has been completed with reference to Transport for NSW “Guide to Traffic Generating Developments” (2002). The Guide defines high density residential buildings as multi-level buildings containing 20 or more dwellings and does not include aged or disabled persons’ housing, usually with more than five levels, secure basement car parking and located near public transport services.

Table 5.1: Transport for NSW (Roads and Maritime) car parking requirements (Regional Sub Centres)

Use	Description	RMS parking rates	Area/ No.	Parking Requirements
Residential	1 Bed	0.6 space/ unit	14	8
	2 Bed	0.9 spaces/ unit	107	96
	3 Bed	1.4 spaces/ unit	15	21
	Visitor	1 space/ 5 units	136	27
Commercial/ Retail		1 space/ 40m ² GFA	621m ²	16
Total				168

Based on the car parking rates required by the Transport for NSW (Roads and Maritime) Guide, Table 5.1 indicates that the proposed development would be required to provide a total of 168 car parking spaces.

5.1.2. State Environmental Planning Policy (GSEPP)

The State Environmental Planning Policy (Gosford City Centre) 2018 also provides development guidelines for proposed developments within the Gosford City Centre, specifically providing separate car parking requirements for commercial and retail components as referenced from Clause 8.5 of the GSEPP. The GSEPP does not include a car parking rate for residential uses. Table 5.2 shows the car parking requirements as required by the GSEPP.

PARKING AND LAYOUT ASSESSMENT

Table 5.2: GSEPP car parking requirements

Use	Description	GSEPP parking rates	Area/ No.	Parking Requirements
Commercial/ Retail		1 space/ 40m ² GFA	621m ²	16
Total				16

5.1.3. Gosford City Centre Development Control Plan 2018

The Gosford City Centre Development Control Plan 2018 (DCP) provides guidelines for car parking requirements for proposed developments within the Gosford City Centre. Table 5.3 shows the car parking requirements as per Table 2 of the DCP.

Table 5.3: DCP car parking requirements

Use	Description	DCP parking rates	Area/ No.	Parking Requirements
Residential	1 Bed	1 space/ dwelling	14	14
	2 Bed	1.2 space/ dwelling	107	128
	3 Bed	1.5 space/ dwelling	15	23
	Visitor	1 space/ 5 units	136	27
Commercial/ Retail		1 space/ 40m ² GFA	621m ²	16
Total				208

5.1.4. Parking Requirement Comparison

Table 5.4 compares the car parking requirements based on Transport for NSW guidelines, the GSEPP rates, and the DCP rates with the proposed provision.

Table 5.4: Parking requirements and provision

Use	Description	RMS Parking Requirements	GSEPP Parking Requirements	DCP Parking Requirements	Provision
Residential	1 Bedroom	8		14	
	2 Bedroom	196		128	
	3 Bedroom	21		23	
	Visitor	27		27	
Commercial/ Retail	621m ²	16	16	16	
Total		168		208	183

For the residential component of the development, Development Consent conditions B3 a) and C 22 b) require the development to provide parking at “a rate no more than the requirements of the Gosford City Centre Development Control Plan 2018 and no less than the requirements of the Roads and Maritime Guide to Traffic Generating Developments 2002”.

For the commercial/ retail component of the development, Development Consent conditions B3 b) and C 22 c) require the development to provide parking for commercial activities “at a rate no less than clause 8.5 of the GSEPP”.

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The proposed car parking provision of 183 spaces falls between the Transport for NSW provision of 168 spaces and the DCP provision of 208 spaces and is considered appropriate. Of this total provision, 16 spaces will be allocated for retail use, in line with the GSEPP parking requirements. Further details are provided in the Car Park Assessment Report (CPAR).

5.2. Accessible Parking

The car parking requirements for accessible car parking rates are taken in accordance with the Gosford City DCP 2018 Section 7.4.5 and provide a minimum of four per cent of the required parking spaces.

The residential component of the development proposes to provide 14 adaptable apartments, these apartments would result in the provision of 14 accessible parking spaces and would be allocated as required.

A rate of four per cent accessible parking would be applied to the remaining residential visitor and retail parking spaces, resulting in an additional two accessible spaces being provided within the development.

Therefore, over the development there would be a requirement for 16 accessible spaces. 17 have been provided. The accessible parking provision meets the requirements of the DCP.

5.3. Motorcycle Parking

The motorcycle parking provision requirements for different development types are specified in the Gosford City DCP 2018. A review of the motorcycle parking requirement rates is summarised in Table 5.5.

Table 5.5: Gosford City Centre DCP 2018 motorcycle parking requirements

Land Use	Size	Rate	Total
Residential	136 Units	1/15 Units	9
Commercial/ Retail	621m ² (16 car spaces)	1/25 Car Spaces	1
Total			10

The development will provide for 16 motorcycle spaces to exceed the minimum motorcycle parking requirements.

5.4. Car Parking Layout Review

The car parking layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004), Off-Street Commercial Vehicle Facilities (AS2890.2:2018), Bicycle Parking (AS 2890.3:2015), and Off-street parking for people with disabilities (AS/NZS 2890.6:2009).

This overview assessment and general design advice included the following:

- bay and aisle widths
- adjacent structures
- circulation roads and ramps
- indicative ramp grades
- height clearances
- parking for persons with disabilities
- motorcycle parking.

Details of this review have been included as Appendix C.

6. SUSTAINABLE TRANSPORT INFRASTRUCTURE

06

6.1. Bicycle Parking

Bicycle parking is increasingly being provided as part of developments to encourage bicycle journeys in the local area. As an example,⁵, of the 1,299 people who live in Travel Zone 5334, 649 (50 per cent) also work in the Gosford area. Of these 649 individuals, 64 per cent choose to drive. A work destination in the Gosford area could imply that these people would live within 10 kilometres of their work and would be well-suited to cycling trips.

Bicycle parking is seldom effective in isolation. It needs to be supported by other facilities such as change rooms (for employees) and a safe cycling network (see Section 6.4).

Table 6.1: Gosford City DCP (2018) bicycle parking requirements

Land Use	Size	Rate	Total
Residential	136 Units	1/3 units (residents)	46 residents
		1/12 units (visitors)	12 visitors
Commercial/ Retail	621m²	1/200m² GFA (employees)	4 employees
		1/750m² GFA (visitors)	1 visitor
Total			46 residents 12 visitors 4 employees (1 visitor) Total 63

The proposed provision of 63 bicycle spaces meets the minimum bicycle parking requirements.

With the new adjacent Gosford Waterfront park development, a total of eight bike racks have recently been provided. As part of the development of future stages on this site consultation will be undertaken with Council to investigate the potential for additional bike racks to be provided in the public domain area to encourage further bicycle use in the area.

6.2. End of Trip Facilities

The Gosford City DCP 2018 outlines the requirements for commercial and retail development providing employment for 20 persons or more, to provide adequate change and shower facilities for cyclists.

As the DCP does not make specific reference to the number of showers/ change rooms to provide, guidance is drawn from Austroads Research Report AP-RS28-16, which requires one shower and one change room for the first five bicycle spaces plus an additional shower/ change room (communal change space) for each ten spaces thereafter. With a retail bicycle parking requirement of five spaces, this equates to a need for one shower and one change room, which has been provided as part of the ground floor end-of-trip-facility.

6.3. Sustainable Transport

The Gosford City Masterplan provides a development framework to guide the revitalisation of Gosford City Centre. It proposes a large increase in population and employment and provides an opportunity to integrate cycling into the city centre.

⁵ From BTS JTW Explorer, see Section 3.9

In the Gosford City Centre urban renewal area, a permeable network for pedestrians, cyclists and public transport will be created to enable the movement of people, not cars.

Where achievable, localised pedestrian, bicycle and public transport only roads will be used to achieve a fully permeable, safe environment for residents, workers and visitors.⁶

6.4. Walking and Cycling Network

Pedestrian infrastructure is well-established surrounding the site, with most streets having footpaths, particularly oriented towards Gosford town centre.

The proposed masterplan for this site focuses on pedestrian connectivity through the site by providing attractive links from the CBD (Mann Street) through to Baker Street, the Gosford City Park and the waterfront.

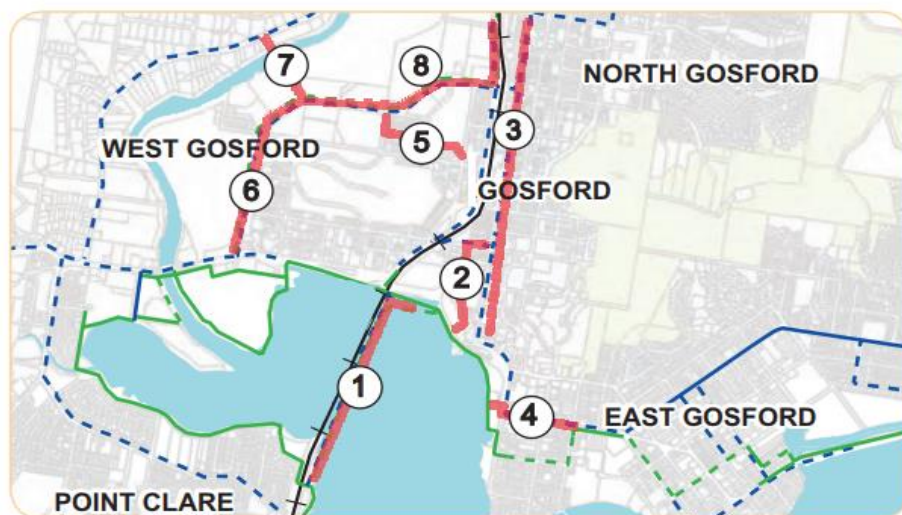
The cycling network for Gosford has been identified in Gosford Bike Strategy 2014 as shown in Figure 6.1.

Figure 6.1: Council's proposed cycling infrastructure at Gosford

Work No.	Description	Time frame
1	Gosford to Point Clare waterfront cycleway	Medium-Long-term
2	Connection between waterfront and Mann Street, along Vaughan Avenue, Baker Street Boulevard and Donnison Street	Short-term
3	Cycleway along Mann Street between Dane Drive and Etna Street	Short-term
4	Widen cycleway from East Gosford to Gosford Waterfront along York Street	Short-term
5	Racecourse Road to Holden Street via Sinclair Street	Short-term
6	Create cycleway Racecourse Road between Faunce Street West and Dane Drive	Short-term
7	Cycleway across bridge connecting to the West Gosford Industrial Estate	Medium-term
8	Cycleway between intersection of Racecourse Road / Faunce Street West, continuing north along Showground Road	Short-term

Figure 4.7 -

**Recommended
Works (Strategic
Objective Priority 1)**



For the purposes of this diagram, short term is to 2016, medium term is to 2021 and long term is to 2036
Source: <http://search.gosford.nsw.gov.au/documents/00/19/69/78/0019697882.pdf>, accessed 8 December 2017

⁶ <http://search.gosford.nsw.gov.au/documents/00/19/69/78/0019697882.pdf>, pg. 27, accessed 8 December 2017

6.5. Public Transport

The site is well-served by public transport as previously described in Section 3.7. Transport for NSW's Future Transport Plan (Section 2.1.1) outlines that Gosford will continue to establish itself as a satellite city. Future connections to the Greater Sydney should be established through 'fast transit' and potentially high speed rail. Rail services are expected to operate at a 'turn up and go' frequency, indicating that customers can reasonably expect services without looking at timetables. Furthermore, the Gosford City Centre TMAP (Section 2.2.1) outlines the intent to improve the bus network east-west connectivity in Gosford and surrounding areas.

7. LOADING & WASTE COLLECTION RESPONSE/ ASSESSMENT

07

7.1. Proposed Loading and Waste Collection Arrangements

A proposed loading area is located at the ground level car park. The loading dock will be constructed as part of the first stage and will additionally service the other stages of development (Southern Tower and Hotel) following their completion.

Access to this loading area is provided through the existing driveway connected to the new extension of Baker Street. The loading bay has been designed to cater for up to 12.5 metres long Heavy Rigid Vehicles, and the loading dock will include a turntable to ensure vehicles can enter and exit in a forward direction. The design has been reviewed to accommodate appropriate swept path assessments which are provided in Appendix C.

Facilities are also provided for waste collection and deliveries/ despatching associated with the bulky goods retail and day-to-day servicing demands of the residential uses, including removalist trucks.

A Loading Dock Management Plan (LDMP) will be developed with the Building Management prior to occupation and include details on:

- service vehicle volumes and expected arrival times.
- loading dock hours of operation.
- traffic operation – access and circulation.
- management of loading area to accommodate demand.
- management of conflicts between vehicles and pedestrians.
- available height clearance.

8. TRAFFIC IMPACT ASSESSMENT

08

8.1. Traffic Generation

8.1.1. Design Rates

Traffic generation estimates for the proposed development have been sourced from the Transport for NSW (Roads and Maritime) *Guide to Traffic Generating Developments* (2002) and Technical Direction (TDT 2013/04). The Guide has until recently, been referenced when assessing the future traffic generation for a given development. The Technical Direction provides updated guidance based on more recent surveys.

For conservativeness, a specialty retail traffic generation rate has been used for the retail component, representing the highest trip generation rate for retail use outlined in the Guide to Traffic Generating Developments.

Estimates of peak hour traffic volumes for both the AM and PM peaks resulting from the proposal are set out in Table 8.1.

Table 8.1: Traffic generation estimates

Land Use	Size	AM		PM	
		Rate	Traffic Generation	Rate	Traffic Generation
Residential	136 Units	0.53/Unit	72	0.32/Unit	44
Commercial/ Retail	621m ²	4.6/100 m ²	29	4.6/100 m ²	29
Total			101		73

Table 8.1 indicates that the proposed development could generate around 101 vehicle movements during the morning peak hour and 73 vehicle movements during the evening peak hour on a typical weekday.

8.2. Background Traffic Growth

To project the traffic conditions for the year that the entire site is expected to be completed, a background traffic growth of two per cent per annum (compounding) has been applied to the existing traffic volumes. This is consistent with the annual growth rate used by the Cardno report for the commercial building which was approved by Transport for NSW.

The future base scenarios also include surrounding approved developments considered in the Cardno report. The approved developments included are ATO building, Union Hotel and Waterside mixed-use development.

8.3. SIDRA Modelling

8.3.1. Queue Calibration

The SIDRA model has been calibrated through observation of the queues noted on site and through videos recorded on the survey date. It was noted that, with the exception of intersections along Central Coast Highway, the local intersections around the proposed site were not observed to have excessive queuing. Any significant delays or queues were related to the Central Coast Highway. Intersection approach and exit distances were altered to match existing ground conditions. Therefore, any impacts due to short storage lanes have been accounted for in the SIDRA model which models each intersection as an individual intersection model.

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8.3.2. Signal Timing Calibration

The Mann Street/ Central Coast intersection is the only signalised intersection included in this assessment. The cycle length for both peak hours has been calculated from survey videos collected on the survey days for the entire peak period and used to calibrate the models. The models have been run at optimised cycle times.

8.3.3. Central Coast Highway/ Vaughan Avenue intersection

The Central Coast Highway/ Vaughan Avenue intersection is an existing left-in/ left-out intersection which is observed to operate well due to its left-in/ left-out only arrangement. When pedestrian signals are activated on the Central Coast Highway south of Vaughan Avenue, southbound queues can potentially block vehicles exiting from Vaughan Avenue. However, the southbound vehicles were observed (during site inspection) to leave appropriate gaps for vehicles to exit from Vaughan Avenue, hence delays were only marginal and this intersection was not included in the assessment.

Furthermore, the development is expected to generate an additional 23 vehicles (left out) in the AM peak and addition 14 (left out) vehicles in the PM peak at this intersection. These can easily be accommodated at this intersection.

8.3.4. Henry Parry Drive/ Donnison Street intersection

Based on the expected traffic distribution from the development any potential impact on the intersection of Henry Parry Drive/ Donnison Street is expected to be minimal. Figure 8.1 shows the traffic distribution and the potential increase in traffic at the surrounding intersections. Specifically relating to the intersection of Henry Parry Drive and Donnison Street there could be up to eight vehicles within the peak hour that may utilise this intersection. Therefore, it is not considered necessary to include this intersection in the modelling.

8.4. Distribution and Assignment

This section provides potential future traffic conditions on the surrounding road network. For the purpose of assessing the development impact the year of completion is expected to be in 2023.

2023 and 2033 base model scenarios have been modelled to determine the road network operation at the year of completion and also a ten-year horizon.

The directional distribution and assignment of traffic generated by the proposed development will be influenced by several factors, including:

- journey to work data for the areas surrounding the site and nearby precincts in Gosford to identify resident and employee direction of travel
- configuration of the arterial road network near the site
- existing operation of intersections providing access between the local and arterial road network
- configuration of access points to the site and existing turning bans
- existing delays experienced at the Central Coast Highway / Dane Drive roundabout influencing travel behaviour along other alternate routes.

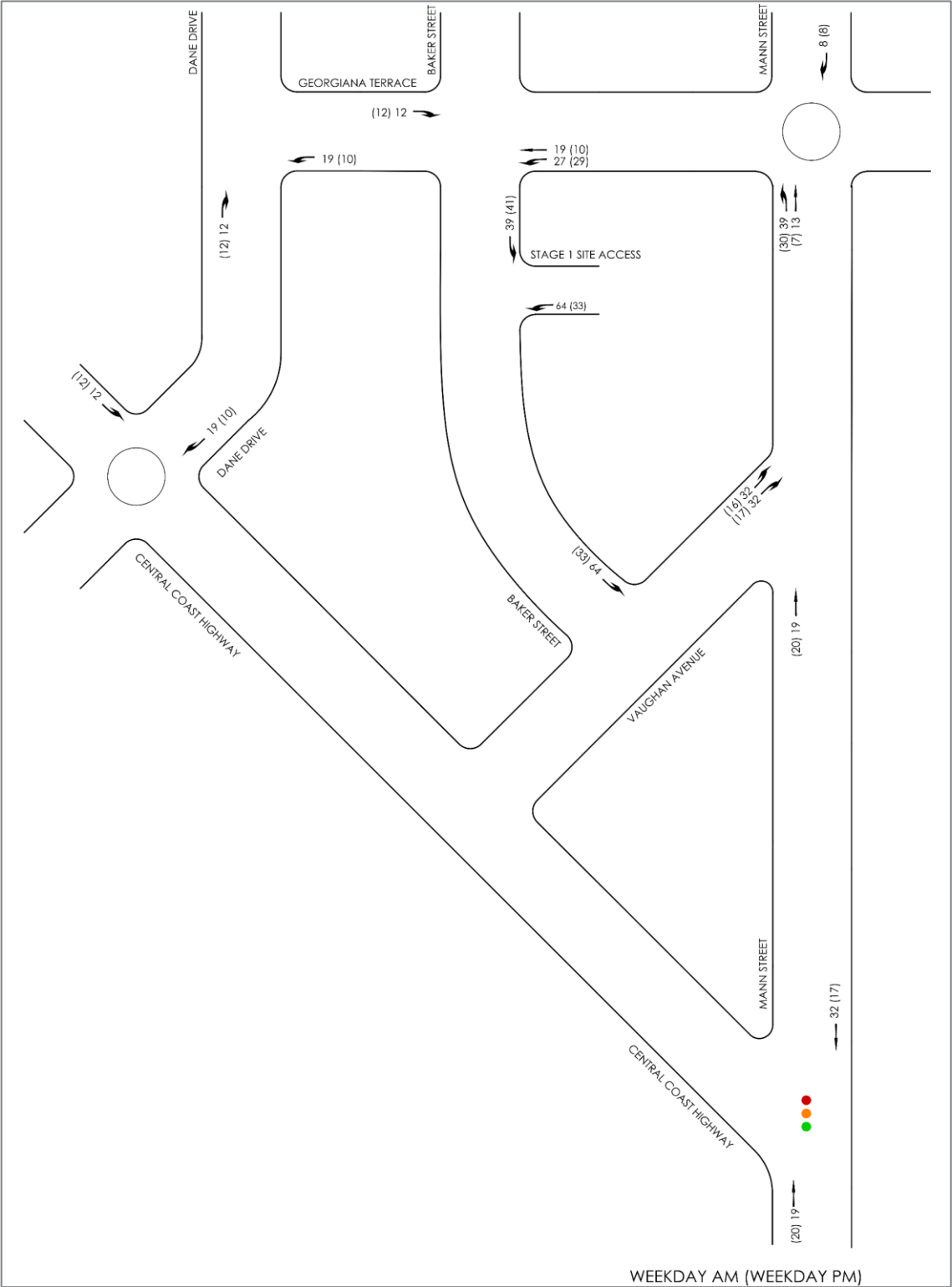
Having consideration to the above, for the purposes of estimating vehicle movements, the following directional distributions have been assumed:

- north 20 per cent
- west 30 per cent

- east 50 per cent.

Figure 8.1 has been prepared to show the estimated increase in turning movements near the site following the completed site development.

Figure 8.1: AM/ PM peak hour site generated traffic volumes (Stage One)



8.4.1. Intersection Performance

2023 Base Model (Including Surrounding Approved Developments)

The impacts on the surrounding road network during peak periods for the 2023 growth scenarios when including the surrounding approved developments considered in the Cardno report have been assessed. The approved developments included are ATO building, 32 Mann Street commercial building, Union Hotel and Waterside mixed-use development. The results are shown in Table 8.2.

Table 8.2: 2023 base (with surrounding approved development)

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Georgiana Terrace/ Dane Drive	AM	0.39	21	15	B
	PM	0.35	13	13	A
Georgiana Terrace/ Baker Street	AM	0.24	28	6	B
	PM	0.51	34	22	C
Georgiana Terrace/ Mann Street	AM	0.35	9	16	A
	PM	0.11	12	5	A
Mann Street/ Vaughan Avenue	AM	0.01	21	1	B
	PM	0.02	15	1	B
Central Coast Highway/ Dane Drive	AM	1.01	97	>200	F
	PM	2.51	>200	>200	F
Central Coast Highway/ Mann Street	AM	0.80	16	178	B
	PM	0.94	26	332	B

Table 8.2 indicates that all the analysed intersections will continue to operate well with spare capacity except for the intersection of the Central Coast Highway and Dane Drive which is likely to be operating over capacity with significant delays in both the AM and PM peaks particularly on the Central Coast Highway due to expected increases in traffic volumes.

2023 Base Model + Stage 1 (North Tower)

It is already apparent from the 2023 modelling scenarios that the intersection of the Central Coast Highway and Dane Drive is operating over capacity in the base 2023 scenario and therefore to continue to apply the annual growth rate beyond 2023 is futile. Based on this the 2023 modelling scenarios with development and 2033 modellings exclude the Central Coast Highway and Dane Drive roundabout.

The impact of the surrounding road network when the development is completed in 2023 is shown in Table 8.3.

Table 8.3: 2023 base + Stage 1 North Tower

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Georgiana Terrace/ Dane Drive	AM	0.41	23	16	B
	PM	0.37	13	14	A
Georgiana Terrace/ Baker Street	AM	0.25	30	7	C
	PM	0.52	35	23	C
Georgiana Terrace/ Mann Street	AM	0.36	9	17	A
	PM	0.11	12	5	A
Mann Street/ Vaughan Avenue	AM	0.21	25	4	B
	PM	0.09	16	2	B
Central Coast Highway/ Mann Street	AM	0.80	16	199	B
	PM	0.94	28	356	B

Table 8.3 indicates that all intersections surrounding the development site will continue to operate satisfactorily with spare capacity.

2033 Base Model

Analysis of the expected operation of the surrounding road network for 2033 has been undertaken to understand the ten-year horizon. This model includes the background growth of two per cent per year to 2033 and includes the surrounding approved developments as per the 2023 base model.

The operation of each intersection is shown in Table 8.4.

Table 8.4: 2033 base (with surrounding approved development)

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Georgiana Terrace/ Dane Drive	AM	0.54	36	26	C
	PM	0.44	17	18	B
Georgiana Terrace/ Baker Street	AM	0.32	36	9	C
	PM	0.67	46	36	D
Georgiana Terrace/ Mann Street	AM	0.46	11	25	A
	PM	0.15	14	7	A
Mann Street/ Vaughan Avenue	AM	0.03	35	1	C
	PM	0.04	21	1	B
Central Coast Highway/ Mann Street	AM	0.92	26	>200	B
	PM	1.12	179	>200	F

Table 8.4 indicates that the intersections of Georgiana Terrace with Dane Drive, Baker Street and Mann Street and the intersection of Mann Street and Vaughan Avenue will continue to operate satisfactorily with

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some spare capacity. It is however noted that during the PM peak by 2033 the intersection of Georgiana Terrace and Baker Street is starting to operate near to capacity and the intersection of the Central Coast Highway and Mann Street will be operating over capacity in the PM peak with delays occurring to Mann Street and the northwest approach of the Central Coast Highway.

As previously discussed under the 2023 analysis, the Central Coast Highway and Dane Drive roundabout would continue to operate over capacity without any improvements past 2023.

2033 Base Model + Stage 1 (North Tower)

The impact of the surrounding road network when the development is completed is shown in Table 8.5.

Table 8.5: 2033 base + Stage 1 (North Tower)

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Georgiana Terrace/ Dane Drive	AM	0.57	38	29	C
	PM	0.45	18	20	B
Georgiana Terrace/ Baker Street	AM	0.34	39	9	C
	PM	0.69	49	38	D
Georgiana Terrace/ Mann Street	AM	0.47	12	27	A
	PM	0.15	14	7	A
Mann Street/ Vaughan Avenue	AM	0.39	47	8	D
	PM	0.13	22	3	B
Central Coast Highway/ Mann Street	AM	0.93	27	>200	C
	PM	1.13	185	>200	F

Table 8.5 indicates that the intersections of Georgiana Terrace with Dane Drive and Mann Street will continue to operate satisfactorily with some spare capacity. However, the intersection of Georgiana Terrace and Baker Street will be operating near capacity in the PM peak at a level of service D. As with the 2033 base scenario the Central Coast Highway and Mann Street intersection will be operating over capacity in the PM peak with delays occurring to Mann Street and the northwest approach of the Central Coast Highway. The intersection of Mann Street and Vaughan Street would be operating near to capacity at a level of service D in the AM peak.

As previously discussed under the 2023 analysis the Central Coast Highway and Dane Drive roundabout would continue to operate over capacity without any improvements past 2023 in the PM peak.

8.4.2. Baker Street Shared Zone

The definition of a shared zone from the Transport for NSW Technical Direction TDT 2016/001 states that a *shared zone is a road or network of roads or road related area where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence over ease of vehicle movement.*

Typically, it is expected that a shared zone would carry low traffic volumes expected to be less than or equal to 100 vehicles per hour. Baker Street currently provides access to two commercial buildings where the expected traffic volumes currently exceed 100 vehicles per hour in the AM peak hour when workers are arriving to the buildings, this however assumes that all generated traffic arrives and departs from the site,

whereas it is likely a portion of the traffic may park elsewhere in the Gosford CBD and therefore not actually enter Baker Street. Noting that this also only impacts the first 55 metres of Baker Street until the two commercial building accesses.

When including the development traffic associated with Stage 1, Baker Street adjacent to the Stage 1 site would have traffic volumes around 96 vehicles in the AM peak and 110 vehicles in the PM peak, this is including vehicles from the existing commercial buildings. The expected traffic volumes are still in the order of the intent of a shared zone where the environment has a key focus of pedestrian priority and as noted above the volumes may be less as it assumes 100 per cent of traffic generated are arriving and departing from the site. It is noted that there are two future development stages proposed for this site, however the access for Stages 2 and 3 would be directly from Vaughan Avenue and therefore not add additional traffic demand to the Baker Street shared zone.

With Baker Street only recently opening (February 2021) and impacts of COVID still resulting in a significant uptake in workers working from home undertaking traffic surveys on Baker Street at present would not be considered representative. It is recommended that Council monitor the operation of Baker Street post development of this site to ensure it is still operating as an appropriate shared zone in the future.

8.4.3. Traffic Impact Summary

The Central Coast Highway and Dane Drive intersection, as per existing conditions, continues to operate over capacity at a level of service F during the 2023 and 2033 scenarios (pre and post development), indicating that to accommodate the existing and forecasted growth in the area improvements will be required to the state and local network to improve intersection operation, particularly in the PM peak periods.

The intersection of the Central Coast Highway and Mann Street continues to operate at the same level of service as per the existing conditions for the 2023 (pre and post development) scenario. However, analysis indicates that the intersection would be operating over capacity in the 2033 base scenario as well as at the completion of the development.

As reflected in the modelling, it can be seen that the intersections along Central Coast Highway do need considerations for capacity improvements even without the development traffic. It is pertinent that any upgrades proposed to intersections along the Central Coast Highway are developed to consider all the proposed developments within and around the CBD.

8.5. Road Network Improvements

8.5.1. Vaughan Avenue and Mann Street Intersection

To improve the existing sight distance and operation at the intersection of Vaughan Avenue and Mann Street it is recommended that the 'No Stopping' distances be increased as outlined in Figure 8.2. This would result in the removal of a total of two on-street car parking spaces but would provide improvements to the existing intersection.

Figure 8.2: Proposed extension of 'No Stopping' at Vaughan Avenue/ Mann Street intersection



8.5.2. Baker Street and Vaughan Avenue

As part of the recent development of the Gosford City Park and extension of Baker Street to Vaughan Avenue a left turn only restriction has been installed on Baker Street at Vaughan Street to restrict vehicles from turning right to access the Central Coast Highway. This forces all vehicles who are intending to travel east on the Central Coast Highway to extend their journey through the local road network by undertaking a right turn manoeuvre at the intersection of Vaughan Street and Mann Street rather than easily undertaking a left turn from Vaughan Street directly onto the Central Coast Highway. GTA, now Stantec are unaware of the analysis behind the recently installed left turn only restriction and recommend that to alleviate impacts to the local road network in particular the Mann Street/ Vaughan Avenue intersection that this restriction be removed so that vehicles requiring to travel eastbound on the Central Coast Highway can do so without providing additional unnecessary travel on the local road network.

Removing the left turn only restriction would improve the intersection analysis at the Vaughan Avenue/ Mann Street intersection in the ten year horizon scenario PM peak to a level of service C.

Table 8.6: 2033 base + Stage 1 (North Tower) – mitigation measure

Intersection	Peak	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Mann Street/ Vaughan Avenue	AM	0.13	38	2	C
	PM	0.07	22	1	B

As outlined in Table 8.6 with allowing vehicles to right turn from Baker Street into Vaughan Avenue in order to access the Central Coast Highway directly rather than accessing it to the east via through the local road network the intersection of Vaughan Avenue and Mann Street would operate satisfactory at a level of service C.

8.5.3. Central Coast Highway

As outlined in this report, current traffic conditions are impacting the operation of the Central Coast Highway near Dane Drive and at Mann Street. Consideration by Transport for NSW and Council should be given to infrastructure improvements such as those recommended in the Cardno Report to accommodate the forecasted growth in the surrounding area.

The mitigation measures proposed within the Cardno Report include the following:

Central Coast Highway/Dane Drive Intersection

- Provision of a 30 metre left-turn slip lane on Dane Drive (NE)
- Provision of a 40 metre left-turn slip lane on Central Coast Highway (NW)

Central Coast Highway/Mann Street Intersection

- Provision of an additional 60 metre left-turn slip/right turn lane on Central Coast Highway (NW)
- Provision of an additional 150 metre exit short lane on Mann Street (S).

8.5.4. Central Coast Highway/ Vaughan Avenue

Transport for NSW requested through their response to SSD 10114 that an examination of a left turn deceleration lane into Vaughan Avenue be included. This application for Stage 1 does not provide any traffic generation for the left turn movement from Central Coast Highway into Vaughan Avenue. Stage 1 is assessed from Baker Street which is a one-way road southbound from Georgiana Terrace to Vaughan Avenue and therefore there is no access to Stage 1 from Vaughan Avenue. Vehicles will enter Baker Street from Georgiana Terrace.

9. CONSTRUCTION TRAFFIC IMPACT

09

9.1. Preliminary Construction Traffic Management Plan

This section provides an overview to the expected construction traffic management, a full Construction Traffic Management Plan (CTMP) will be completed by the contractor prior to commencing work on site.

9.1.1. Construction Traffic Management

The preparation of the preliminary CTMP has been completed on the basis of the following aspects which are described in more detail below:

- overall principles of construction traffic management
- staging schedule
- work hours
- construction traffic generation
- truck routes
- construction traffic impact
- potential mitigation measures during construction.

9.1.2. Overall Principles of Construction Traffic Management

The overall principles of traffic management during construction activity include:

- minimising the impact on pedestrian movements
- maintaining appropriate public transport access
- minimising the impact to existing traffic on adjacent roads and intersections
- minimising the loss of on-street parking
- maintaining access to/ from any adjacent properties
- restricting construction vehicle movements to designated routes to/ from the site
- managing and controlling construction vehicle activity near the site
- ensuring construction activity is carried out in accordance with Council's approved hours of works.

9.1.3. Construction Timing

The North Tower is expected to take 22 -24 months to complete construction.

9.1.4. Work Hours

Construction work would be undertaken in accordance with development consent conditions. The typical work hours are expected to be:

- Monday - Friday: 7:00am to 6:00pm
- Saturday - 8:00am to 4:00pm
- Sundays and public holidays: No work.

The contractor will be responsible for instructing and controlling all sub-contractors regarding the hours of work. To minimise disruption to daily traffic and disturbance to surrounding landowners and businesses. It may be necessary to carry out some work outside of these hours, if this occurs, prior notice would be given to the community if any works are planned to be undertaken outside typical hours. Such activities would include delivery of cranes, large plant or equipment to the site.

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9.1.5. Worker Induction

All workers and subcontractors engaged on-site would be required to undergo a site induction. The induction should include permitted access routes to and from the construction site for all vehicles, as well as standard environmental, Work Health and Safety (WHS), driver protocols and emergency procedures.

Any workers required to undertake works or traffic control within the public domain would be suitably trained and covered by adequate and appropriate insurances.

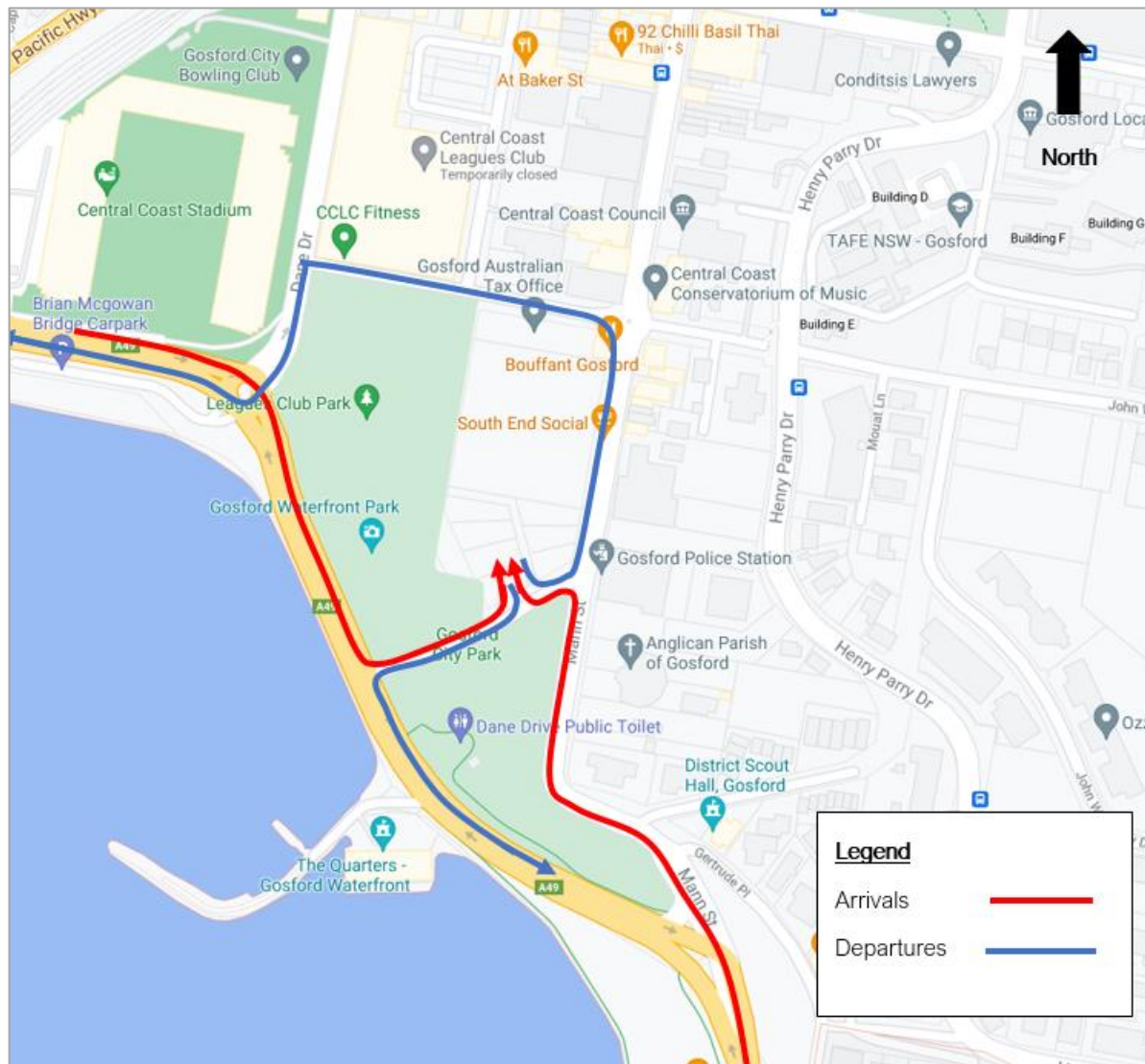
9.1.6. Site Access

Site access will be from the existing temporary access provided on Vaughan Avenue. It is expected that most large vehicles would arrive and depart from the M1 through the Gosford Interchange, with any local area construction movements arriving and departing from and to the Central Coast Highway as outlined in Figure 9.1.

The largest size vehicle expected during construction would be a truck and dog, which would only be required in the excavation phase or an 18 metre semi-trailer. Limited access may be required via Baker Street, swept path assessments have been prepared for the road network surrounding the site and are provided in Appendix C.

There is expected to be some impact to the on-street parking on Baker Street directly adjacent to the site during completion of the site frontage, this is expected to be staggered to a few spaces at a time.

Figure 9.1: Proposed Construction Vehicle Routes



Basemap Source: Googlemaps

9.1.7. Heavy Vehicle Generation

Heavy vehicle traffic would mainly be generated by activities associated with the following:

- delivery of construction materials
- delivery and removal of construction equipment and machinery.

The number of daily truck movements will vary depending on the works being conducted on the specific day or timeframe in the construction programme. At periods where timing is critical (e.g. during concrete pouring) and when several stages of construction occur concurrently. The worst-case assessment is estimated as 60 to 70 truck movements per day. This would result in up to 14 truck movements in the peak hour, conservatively assuming 20 per cent of daily generation arriving within the peak periods. On average, typically 10 to 20 truck movements are expected per day.

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9.1.8. Light Vehicle Generation

Light vehicle traffic generation would be largely generated by construction worker traffic movements to and from the site.

It is expected in the worst-case scenario there could be up to 200 construction workers on any one day, with an average of 80 to 120 workers. Construction workers will be encouraged to carpool to ensure that parking can be accommodated wholly within the site. Based on an assumption that 15 per cent carpool it is expected that 170 light vehicles per day could be expected during peak construction. On average 68 to 102 vehicles arrive at the site per day. It is expected that all workers would arrive to the site prior to 7:00am and typically leave around 4:00pm and therefore avoid the AM and PM peak periods.

9.1.9. Summary of Construction Traffic Generation

A range of construction vehicles are likely to be generated by the proposed construction activities these would include:

- larger equipment transport vehicles for the delivery and pickup of equipment and materials
- medium rigid vehicles for export and input of required materials
- small and medium rigid vehicles, vans and couriers for materials delivery
- light vehicles for employees to travel to and from the site.

The estimated number of construction vehicles per day is detailed in Table 9.1.

Table 9.1: Daily construction traffic volumes

Vehicle type	Total number of vehicles per day (on average)	Total peak vehicle movements per day (on average)	Total peak vehicle movements per hour
Light vehicles	102	170	Outside of Peak hour
Heavy vehicles/ Trucks	20	70	14
Total	122	240	14

Table 9.1 shows that during peak construction, there could be up to a total of 240 vehicle movements (120 arriving and 120 departing the site per day). 14 of these movements are expected to occur within the peak hour.

9.1.10. Construction Traffic Impact

The analysis of the road network surrounding the development site been assessed based on the peak expected traffic generation and background traffic growth for the site once it is fully operational. The proposed completed development traffic generation as outlined in Table 8.1 is greater than the expected worst-case during construction and therefore no further modelling is required.

Generally, the majority of construction workers finish prior to the PM road network peak and therefore it is expected that the road network would continue to operate well throughout the construction period.

The largest size vehicle expected during construction would be an 18 metre semi-trailer or truck and dog. No impact is expected to existing on-street parking surrounding the site during construction. Swept path assessments have been undertaken for key intersections surrounding the site and are provided in Appendix C.

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A construction traffic management plan will be prepared by the contractor prior to works commencing on-site.

10. OVERVIEW GREEN TRAVEL PLAN

10

10.1. Introduction

10.1.1. Travel Plan Framework

Transport is a necessary part of life, but it has economic, public health and environmental consequences. The transport sector is one of the fastest growing emissions sectors in Australia, and therefore is one of the key opportunities for reducing greenhouse gases. As well as delivering better environmental outcomes, providing a range of travel choices with a focus on walking, cycling and public transport will have major public health benefits and ensure a strong and prosperous community.

The physical infrastructure envisaged as part of the proposal is a significant positive though is only part of the solution. A green travel plan (GTP) will ensure that the transport infrastructure, services and policies both internal and external to the site are tailored to the users and co-ordinated to achieve the most sustainable outcome possible.

10.1.2. What is a GTP

A GTP is a package of measures aimed at promoting sustainable travel and reducing reliance on the private car. It is not designed to be 'anti-car' however will encourage and support people's aspirations for carrying out their daily business in a more sustainable way. Travel plans can provide both:

- measures which restrict car use (disincentives or 'sticks')
- measures which encourage or support sustainable travel, reduce the need to travel or make travelling more efficient (incentives or 'carrots').

The travel plan would promote the use of transport other than the private car, provide choice for staff to travel to and from the site, which is more sustainable and environmentally friendly.

Indeed, there are a range of 'non-car' transport options that are available at the site which have been described in this report. Given the proposal aims to reduce private car travel to the site, the implementation of a GTP would be beneficial.

10.2. Key Objectives

The aim of the GTP is to bring about better transport arrangements for working at the site. The key objectives of the travel plan are:

- to encourage walking
- to encourage cycling
- to encourage the use of public transport
- to reduce the use of private cars (particularly single car occupancy)
- where it is necessary to use the car, encourage more efficient use.

It is the intention therefore that the travel plan will deliver the following benefits:

- enable higher public and active travel mode share targets to be achieved
- contribute to greenhouse gas emission reductions and carbon footprint minimisation
- contribute to healthy living for all
- contribute to social equity and reduction in social exclusion
- improve knowledge and contribute to learning.

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10.3. Site Specific Measures

The location of the site, in terms of its proximity to a number of sustainable transport options including Gosford CBD which provides frequent heavy rail (Gosford Train Station) and bus services, is a key consideration for development in the precinct. The site also has a walk score of 84 out of 100. This location is very walkable so most errands can be accomplished on foot.

The staged proposed mixed-use development includes residential apartments and retail areas. The current journey to work mode share for residents within the SA1 polygon and employments at the destination zone have been obtained from census data 2016 and are detailed in Section 3.9. Table 10.1 summarises the main mode shares for both residential and retail development based on observed overall mode shares for the local area.

Table 10.1: Existing Travel Mode share

Residents/ Staff	Mode share		
	Car	Public Transport	Active Transport
Residential apartment	65%	22%	11%
Retail	88%	7%	2%

The current mode shares for both development types show a high reliance on car travel. However, considering the proximity of the site to the frequent public transport and its high walk score, an aspirational mode change between 5 and 10 percent from car to public and active transport for staff and residents can be achieved. This would require providing active transport facilities including bicycle parking spaces, showers, lockers and changing facilities as well as encouraging carpooling and share car initiatives.

To achieve the goal of a reduced car mode share, a GTP will be put in place to raise awareness and further influence the travel patterns of people travelling to/ from the site with a view to encourage modal shift away from cars.

The following potential measures and initiatives could be implemented to encourage more sustainable travel modes:

- Providing some car share spaces on site.
- Considering the use of electric vehicles and providing electric charging points.
 - Ten electric vehicle charging bays will be provided within the car park on the ground floor.
- Provide a Travel Access Guide (TAG) which would be provided to all residents and staff and publicly available to all visitors. The document would be based on facilities available at the site and include detail on the surrounding public transport services and active transport initiatives. The TAG would be updated as the surrounding transport environment changes.
- Providing public transport information boards/ apps to inform residents, staff and visitors of alternative transport options (the format of such information boards would be based upon the TAG).
- Providing a car sharing pod(s) on-site or nearby and promoting the availability of car sharing pods for trips that require the use of private vehicles.
- Providing bicycle facilities including secure bicycle parking for residents and staff, bicycle racks/ rails for visitors and shower and change room facilities.
 - An end-of-trip facility (including shower) will be provided in front of the lobby entrance for retail employees and visitors who arrive to the site via bicycle.

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- Promote bicycle share schemes.
- Providing on site bicycle workshop to encourage residents and staff to use bicycles for their short trips
- Encouraging staff that drive to work to carpool through creation of a carpooling club or registry/ forum.
- Regularly promoting ride/ walk to work days.
- Providing a regular newsletter to all residents and staff members bringing the latest news on sustainable travel initiatives in the area.
- Review condition of footpaths onsite around the site, if required, upgrade footpaths to meet residents', staff and visitors' needs. Negotiate with Central Coast Council for improvements to footpaths used by residents, staff, visitors.
- Encouraging promotional campaigns and a framework for the implementation, monitoring and communication of the Green Travel Plan.
- Provide free Opal Cards with \$10 balance for the initial occupation of the dwellings so that residents would be encouraged to make public transport their modal choice from the day they moved into their new dwelling.
- Inform residents/ staff about the benefits of teleworking on traffic and the environment.

10.3.1.Travel Access Guide (TAG)

A TAG provides information to residents, staff and visitors on how to travel to the site using sustainable transport modes such as walking and public transport. The information is presented visually in the format of a map (or app) showing the site location and nearby transport modes highlighting available pedestrian and cycle routes. The information is usually presented as a brochure (or app) to be included in a welcome pack or on the back of company stationery and business cards.

10.3.2.Information and Communication

Several opportunities exist to provide residents, staff and visitors with information about nearby transport options. Connecting staff and visitors with information would help to facilitate journey planning and increase their awareness of convenient and inexpensive transport options which support change in travel behaviour. These include:

- Transport NSW provides bus, train and ferry routes, timetables and journey planning through their Transport Info website: <http://www.transportnsw.info>.

In addition, connecting staff and visitors via social media may provide a platform to informally pilot new programs or create travel-buddy networks and communication.

10.3.3.Monitoring of the GTP

There is no standard methodology for monitoring the GTP, but it is suggested that it be monitored to ensure that it is achieving the desired benefits and modify it if required. It will not be possible at this stage to state what additional modifications might be made as this will be dependent upon the particular circumstances prevailing at that time.

The GTP should be monitored on a regular basis, e.g. yearly, by carrying out travel surveys. Travel surveys will allow the most effective initiatives of the GTP to be identified, and conversely less effective initiatives can be modified or replaced to ensure the best outcomes are achieved.

It will clearly be important to understand people's reasons for travelling the way they do: - any barriers to changing their behaviour, and their propensity to change.

To ensure the successful implementation of the GTP, a Travel Plan Coordinator (TPC) should be appointed to ensure the successful implementation of the GTP. This could be the building manager.

10.4. Summary

The proposal would be able to develop and utilise a travel plan to actively promote increased use of sustainable transport modes. Although it is difficult to predict what measures might be achievable, the above measures provide a framework for the site and implementation of a future travel plan.

11. CONCLUSION

11

11.1. Summary

Based on the analysis and discussions presented within this report, the following conclusions are made:

1. The proposal will provide a car parking provision of 183 spaces which falls between the Transport for NSW (previously Roads and Maritime) calculated provision of 168 spaces and the DCP calculated provision of 208, in line with the Development Consent conditions B3 a) and C22 b).
2. Of the above provision, 16 spaces would be allocated for retail use, in line with the provision required under the GSEPP.
3. The proposed parking layout will be designed to comply with the dimensional requirements as set out in the Australian/New Zealand Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS/NZS2890.6:2009).
4. The proposal would provide 63 bicycle spaces, which meets the minimum requirement of 63 spaces as required under the DCP.
5. One loading area would be provided as part of this Stage 1 development and would also be utilised for the other two stages following their completion. The loading area has been designed to cater for up to 12.5-metre-long heavy rigid vehicles, to enter and exit in a forward direction.
6. The development is expected to generate up to 101 and 73 vehicle movements during the AM and PM peaks respectively.
7. A construction management plan will be completed by the contractor prior to commencement of work. A preliminary construction plan has been provided as part of this report.
8. Analysis of the surrounding road network indicates there are capacity concerns where the local road network connects to the state road network in the future scenarios without the inclusion of the proposed development.
9. In 2023 the traffic generated by the development would not provide an adverse impact to the expected operation of the surrounding road network.
10. With or without the proposed development, infrastructure improvements are required for connections to the Central Coast Highway to create capacity to allow for future growth.

A.SURVEY RESULTS

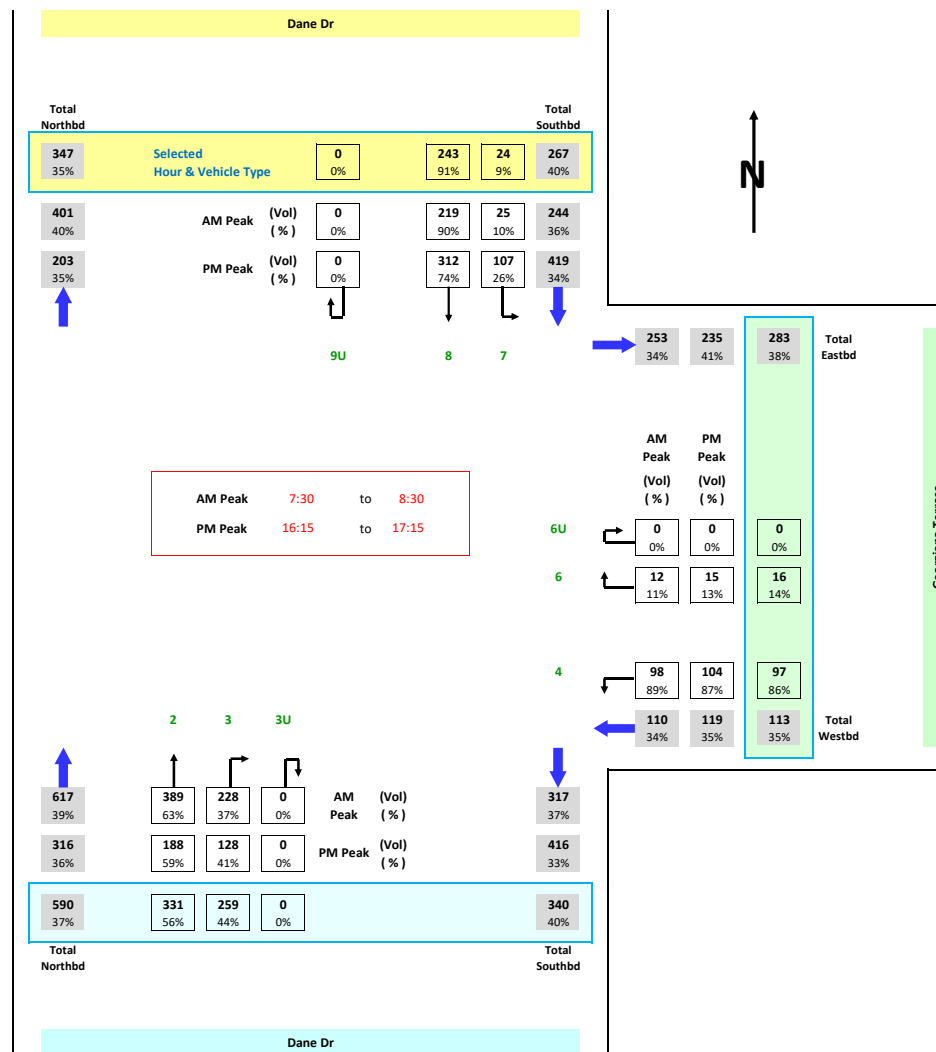


Job No. : N3789
Client : GTA
Suburb : Manns Street
Location : 1. Dane Dr / Georgiana Terrace

Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting	Vehicle Type
7:45	All Vehicles

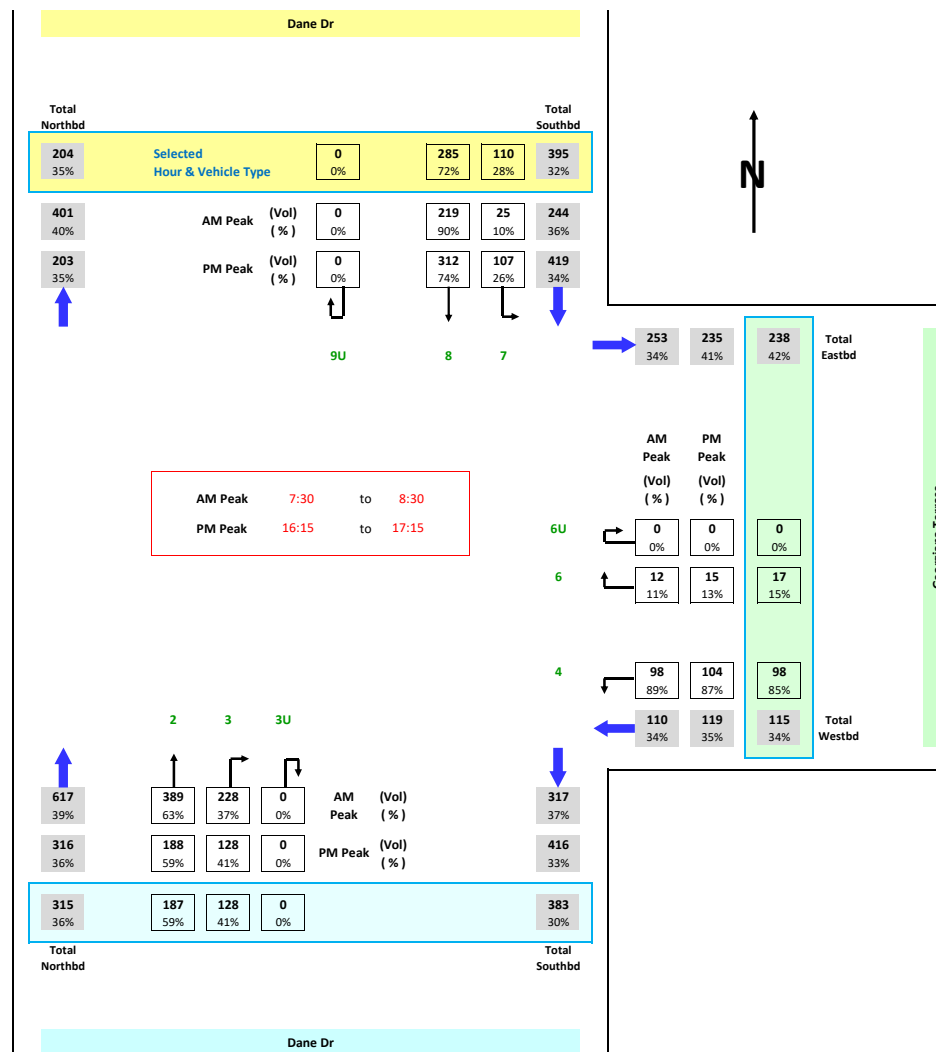


Job No. : N3789
Client : GTA
Suburb : Manns Street
Location : 1. Dane Dr / Georgiana Terrace

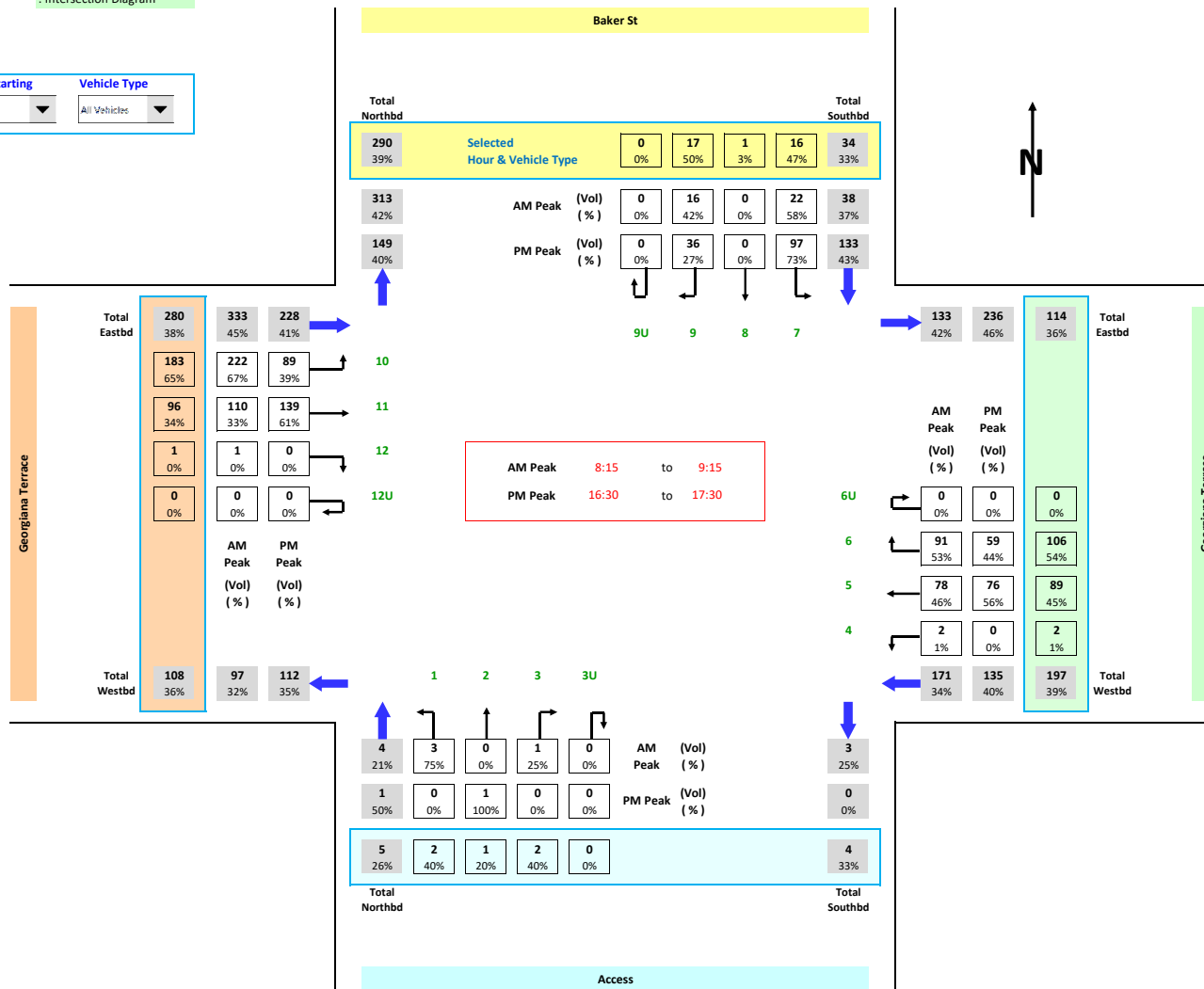
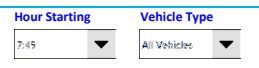
Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting	Vehicle Type
16:30	All Vehicles



Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram

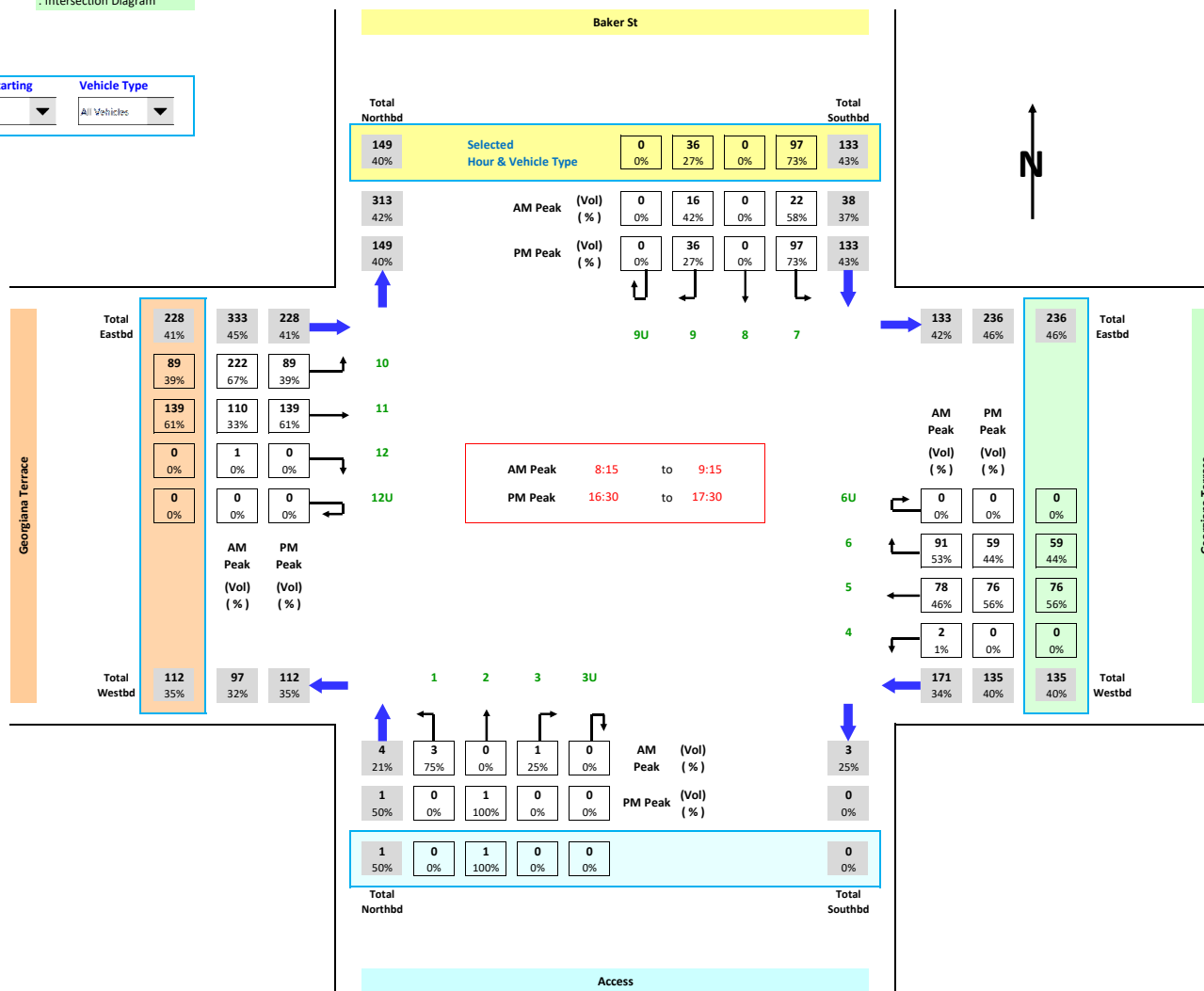


Job No. : N3789
 Client : GTA
 Suburb : Manns Street
 Location : 2. Baker St / Georgiana Terrace / Access

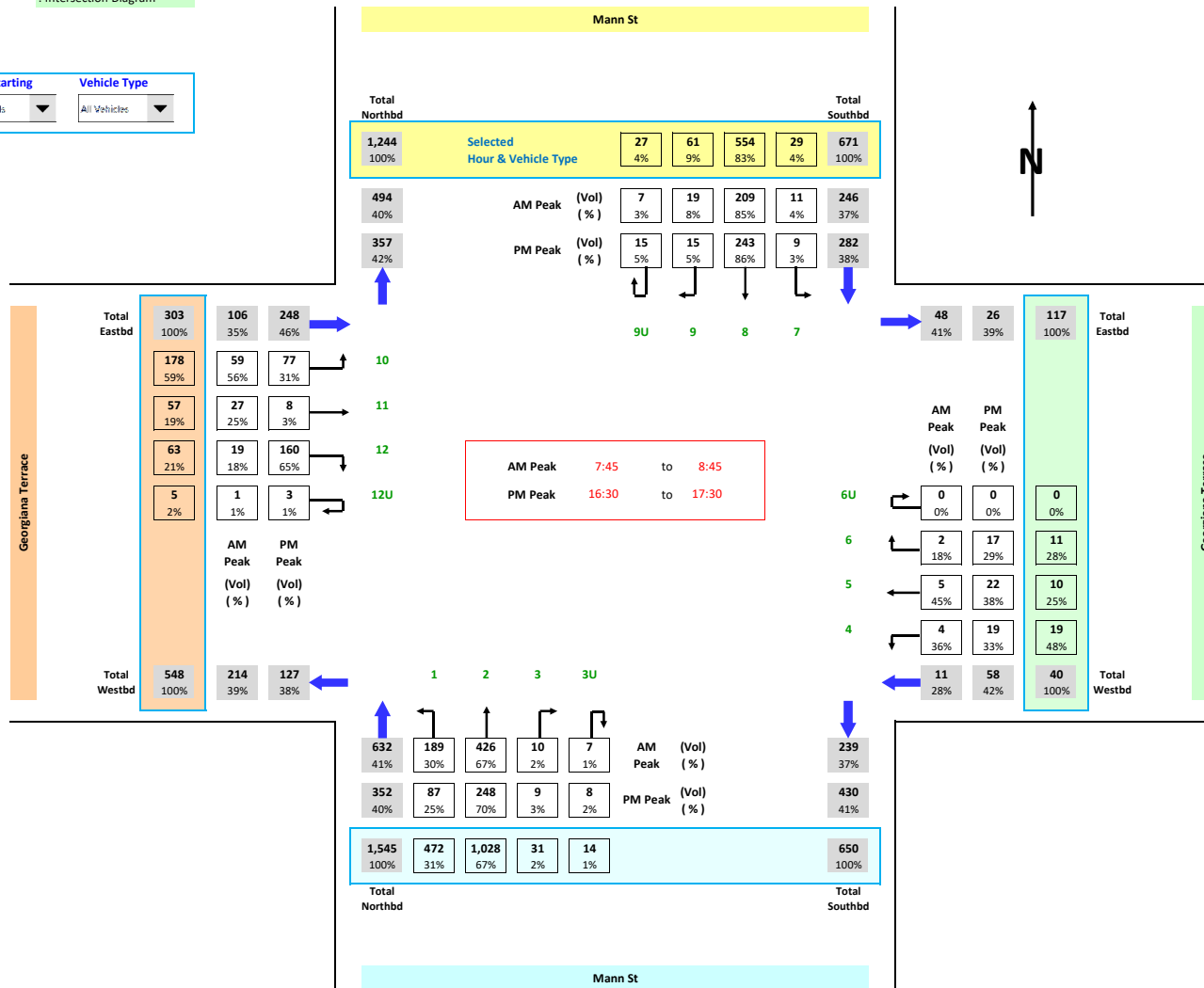
Day/Date : Tue, 28th Nov 2017
 Weather : Fine
 Description : Classified Intersection Count
 : Intersection Diagram



Hour Starting: 16:30
 Vehicle Type: All Vehicles



Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
: Intersection Diagram



Job No. : N3789
Client : GTA
Suburb : Manns Street
Location : 4. Vaughan Ave / Mann St

Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram

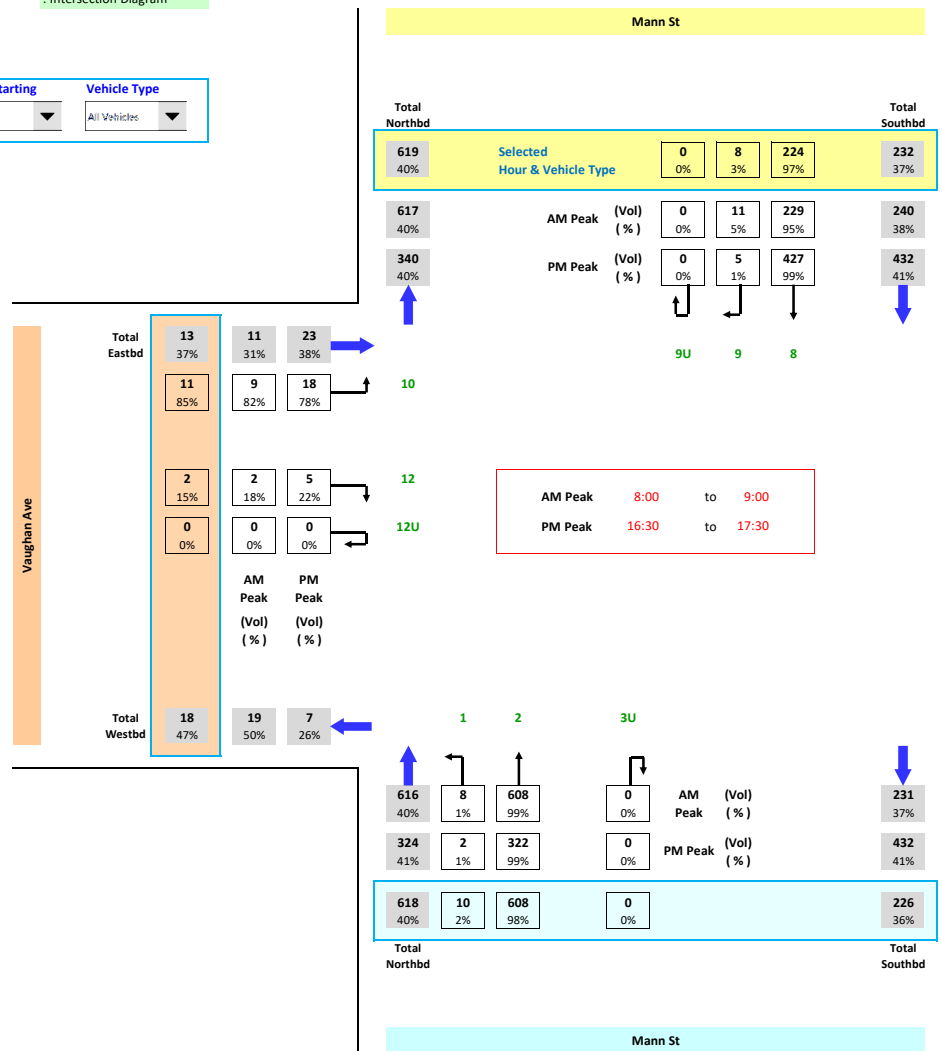


Hour Starting

Vehicle Type

7:45

All Vehicles

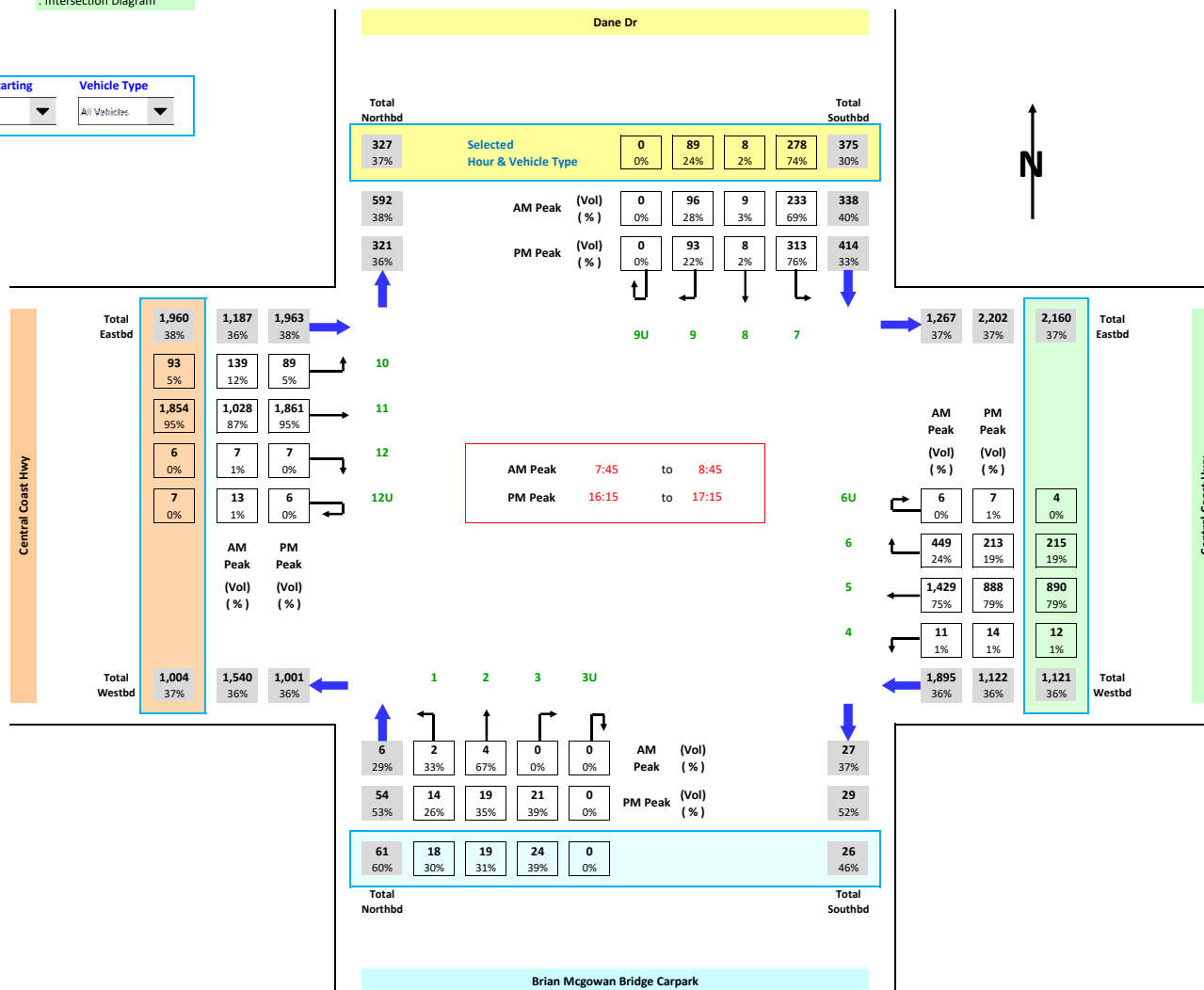


Job No. : N3789
Client : GTA
Suburb : Manns Street
Location : 5. Dane Dr / Central Coast Hwy / Bridge Carpark

Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting 16:30
Vehicle Type All Vehicles

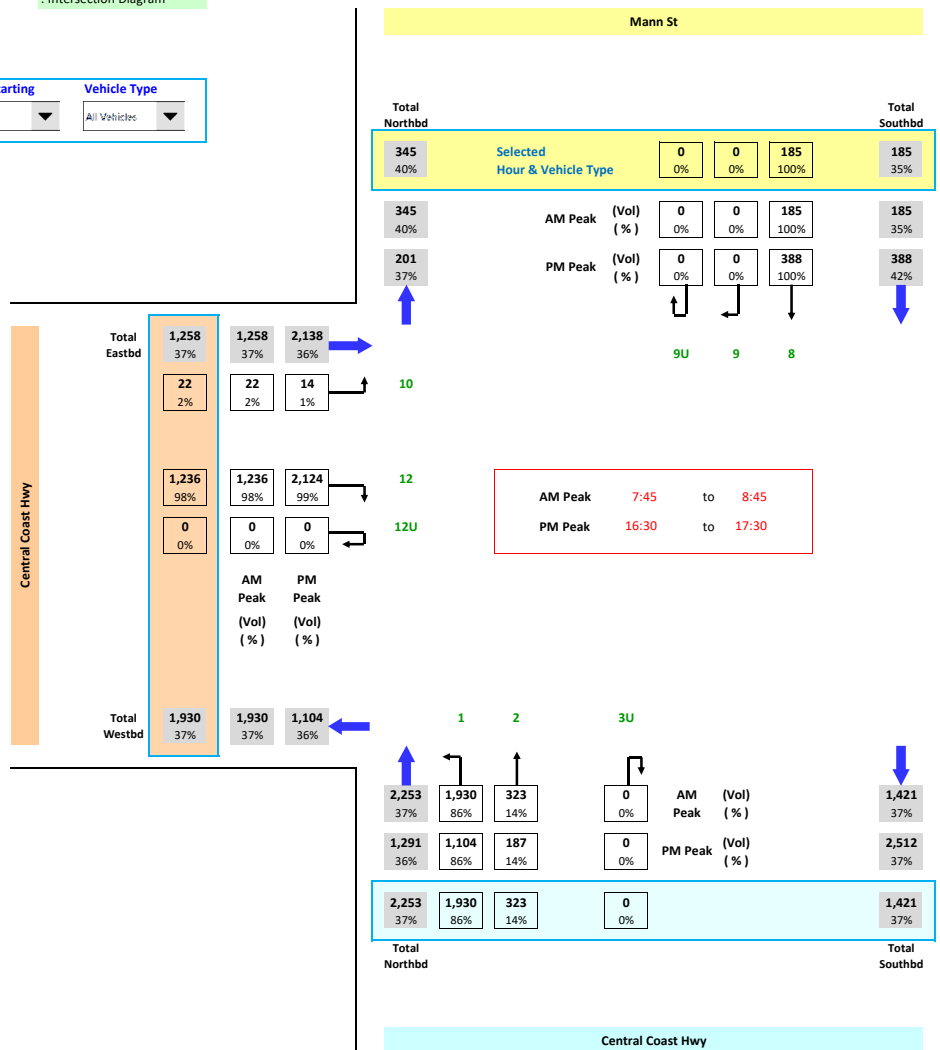


Job No. : N3789
Client : GTA
Suburb : Manns Street
Location : 6. Mann St / Central Coast Hwy

Day/Date : Tue, 28th Nov 2017
Weather : Fine
Description : Classified Intersection Count
Intersection Diagram



Hour Starting: 7:45
Vehicle Type: All Vehicles



B.SIDRA INTERSECTIONS RESULTS

B

MOVEMENT SUMMARY

▽ Site: 1 [1. Georgiana Tce and Dane Drv AM]

Georgiana Tce and Dane Dr
2017 Existing Traffic - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	351	1.4	0.486	5.4	LOS A	4.4	30.8	0.51	0.51	0.61	25.5
3	R2	405	0.7	0.486	7.1	LOS A	4.4	30.8	0.51	0.51	0.61	34.5
Approach		756	1.1	0.486	6.3	NA	4.4	30.8	0.51	0.51	0.61	29.7
East: Georgiana Tce (E)												
4	L2	276	1.1	0.375	5.3	LOS A	2.0	13.9	0.47	0.66	0.55	31.5
6	R2	35	0.0	0.375	19.3	LOS B	2.0	13.9	0.47	0.66	0.55	27.9
Approach		311	1.0	0.375	6.9	LOS A	2.0	13.9	0.47	0.66	0.55	30.9
North: Dane Drive (N)												
7	L2	38	2.6	0.156	1.1	LOS A	0.0	0.0	0.00	0.03	0.00	25.8
8	T1	258	3.1	0.156	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	24.9
Approach		296	3.0	0.156	0.1	NA	0.0	0.0	0.00	0.03	0.00	25.1
All Vehicles		1363	1.5	0.486	5.1	NA	4.4	30.8	0.39	0.44	0.47	28.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2. Georgiana Tce and Baker St AM]

Georgiana Tce and Baker Street
2017 Existing Traffic - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	154	1.3	0.473	8.1	LOS A	4.5	31.6	0.59	0.31	0.86	28.2
5	T1	293	0.7	0.473	4.1	LOS A	4.5	31.6	0.59	0.31	0.86	29.6
6	R2	178	0.6	0.473	9.3	LOS A	4.5	31.6	0.59	0.31	0.86	31.9
Approach		625	0.8	0.473	6.6	NA	4.5	31.6	0.59	0.31	0.86	30.2
North: Baker Street (N)												
7	L2	67	0.0	0.232	6.6	LOS A	0.8	5.9	0.62	0.78	0.65	28.8
8	T1	9	0.0	0.232	12.1	LOS A	0.8	5.9	0.62	0.78	0.65	28.0
9	R2	18	0.0	0.232	27.8	LOS B	0.8	5.9	0.62	0.78	0.65	28.6
Approach		94	0.0	0.232	11.2	LOS A	0.8	5.9	0.62	0.78	0.65	28.7
West: Georgiana Terrace (W)												
10	L2	194	1.5	0.294	3.5	LOS A	0.1	0.5	0.01	0.16	0.01	38.8
11	T1	361	0.3	0.294	0.0	LOS A	0.1	0.5	0.01	0.16	0.01	37.5
12	R2	2	50.0	0.294	8.3	LOS A	0.1	0.5	0.01	0.16	0.01	32.7
Approach		557	0.9	0.294	1.3	NA	0.1	0.5	0.01	0.16	0.01	38.0
All Vehicles		1276	0.8	0.473	4.6	NA	4.5	31.6	0.34	0.28	0.47	33.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: ☐ [☐. Georgiana Tce and Mann St AM]

Mann St and Georgiana Tce
2017 Existing Traffic - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	431	1.2	0.712	4.4	LOS A	9.7	70.7	0.63	0.49	0.63	32.0
2	T1	462	7.2	0.712	4.0	LOS A	9.7	70.7	0.63	0.49	0.63	34.9
3	R2	12	0.0	0.712	6.7	LOS A	9.7	70.7	0.63	0.49	0.63	32.7
Approach		905	4.3	0.712	4.2	LOS A	9.7	70.7	0.63	0.49	0.63	33.7
East: Georgiana Terrace (E)												
4	L2	4	0.0	0.017	6.1	LOS A	0.1	0.7	0.60	0.56	0.60	30.8
5	T1	6	0.0	0.017	5.6	LOS A	0.1	0.7	0.60	0.56	0.60	29.9
6	R2	3	0.0	0.017	8.4	LOS A	0.1	0.7	0.60	0.56	0.60	32.8
Approach		13	0.0	0.017	6.4	LOS A	0.1	0.7	0.60	0.56	0.60	31.0
North: Mann Street (N)												
7	L2	11	0.0	0.323	4.4	LOS A	2.4	18.2	0.51	0.54	0.51	33.0
8	T1	232	12.9	0.323	4.2	LOS A	2.4	18.2	0.51	0.54	0.51	35.0
9	R2	83	0.0	0.323	6.7	LOS A	2.4	18.2	0.51	0.54	0.51	34.0
Approach		326	9.2	0.323	4.9	LOS A	2.4	18.2	0.51	0.54	0.51	34.7
West: Georgiana Terrace (W)												
10	L2	97	0.0	0.326	6.7	LOS A	2.1	14.8	0.71	0.78	0.71	31.0
11	T1	27	0.0	0.326	6.1	LOS A	2.1	14.8	0.71	0.78	0.71	28.2
12	R2	126	0.8	0.326	8.9	LOS A	2.1	14.8	0.71	0.78	0.71	30.5
Approach		250	0.4	0.326	7.8	LOS A	2.1	14.8	0.71	0.78	0.71	30.5
All Vehicles		1494	4.7	0.712	5.0	LOS A	9.7	70.7	0.62	0.55	0.62	33.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4. Mann St and Vaughan Ave AM]

Mann St and Vaughan Ave
2017 Existing Traffic - AM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	11	18.2	0.463	4.6	LOS A	0.1	1.0	0.01	0.01	0.01	40.9
2	T1	859	4.1	0.463	0.0	LOS A	0.1	1.0	0.01	0.01	0.01	39.9
Approach		870	4.3	0.463	0.1	NA	0.1	1.0	0.01	0.01	0.01	39.9
North: Mann Street (N)												
8	T1	352	8.5	0.208	0.6	LOS A	0.3	2.1	0.07	0.01	0.08	39.1
9a	R1	8	12.5	0.208	11.9	LOS A	0.3	2.1	0.07	0.01	0.08	38.8
Approach		360	8.6	0.208	0.8	NA	0.3	2.1	0.07	0.01	0.08	39.1
SouthWest: Vaughan Avenue (SW)												
30a	L1	43	18.2	0.128	11.2	LOS A	0.4	3.3	0.76	0.88	0.76	27.1
32b	R3	6	0.0	0.128	18.0	LOS B	0.4	3.3	0.76	0.88	0.76	29.9
Approach		49	16.0	0.128	12.0	LOS A	0.4	3.3	0.76	0.88	0.76	27.6
All Vehicles		1279	5.9	0.463	0.7	NA	0.4	3.3	0.05	0.04	0.06	39.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5. Central Coast Hwy and Dane Drv AM]

Central Coast Hwy and Dane Drv
2017 Existing Traffic - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	12	0.0	0.931	20.7	LOS B	30.7	221.2	1.00	1.17	1.73	44.1
22	T1	1515	3.3	0.931	21.5	LOS B	30.7	221.2	1.00	1.19	1.77	44.5
23	R2	476	1.3	0.931	28.6	LOS C	30.4	216.9	1.00	1.25	1.86	33.3
Approach		2003	2.8	0.931	23.2	LOS B	30.7	221.2	1.00	1.21	1.79	42.3
NorthEast: Dane Drive (NE)												
24	L2	246	2.8	0.928	39.0	LOS C	17.2	122.4	1.00	1.93	2.82	26.6
25	T1	10	0.0	0.928	40.7	LOS C	17.2	122.4	1.00	1.93	2.82	27.6
26	R2	276	1.4	0.928	40.7	LOS C	17.2	122.4	1.00	1.93	2.82	27.8
Approach		532	2.1	0.928	39.9	LOS C	17.2	122.4	1.00	1.93	2.82	27.2
NorthWest: Central Coast Hwy (NW)												
27	L2	278	0.7	0.820	16.7	LOS B	15.2	109.9	1.00	1.13	1.54	32.5
28	T1	1090	5.1	0.820	18.4	LOS B	15.2	109.9	1.00	1.17	1.58	46.0
29	R2	7	0.0	0.820	23.2	LOS B	14.3	104.8	1.00	1.20	1.62	45.5
Approach		1375	4.2	0.820	18.1	LOS B	15.2	109.9	1.00	1.16	1.58	43.6
SouthWest: Dane Drive (SW)												
30	L2	2	0.0	0.026	13.3	LOS A	0.1	0.9	0.89	0.85	0.89	48.6
31	T1	4	0.0	0.026	13.9	LOS A	0.1	0.9	0.89	0.85	0.89	30.2
32	R2	1	0.0	0.026	18.7	LOS B	0.1	0.9	0.89	0.85	0.89	49.0
Approach		7	0.0	0.026	14.4	LOS A	0.1	0.9	0.89	0.85	0.89	38.4
All Vehicles		3917	3.2	0.931	23.6	LOS B	30.7	221.2	1.00	1.29	1.85	40.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6. Central Coast Hwy and Mann Street AM]

Central Coast Hwy, Masons Parade and Mann Street

2017 Existing Traffic - AM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 85 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	2047	2.6	0.736	5.2	LOS A	3.0	21.6	0.08	0.58	0.08	50.4
2	T1	553	5.1	0.778	25.0	LOS B	19.8	144.3	0.88	0.81	0.93	30.0
Approach		2600	3.2	0.778	9.4	LOS A	19.8	144.3	0.25	0.63	0.26	45.7
North: Mann Street (N)												
8	T1	313	9.3	0.226	17.9	LOS B	3.7	27.6	0.59	0.49	0.59	29.0
Approach		313	9.3	0.226	17.9	LOS B	3.7	27.6	0.59	0.49	0.59	29.0
NorthWest: Central Coast Hwy (NW)												
27b	L3	27	14.8	0.766	25.4	LOS B	20.1	146.4	0.75	0.83	1.08	38.4
29a	R1	1338	4.4	0.766	21.9	LOS B	20.5	149.1	0.75	0.83	0.93	36.9
Approach		1365	4.6	0.766	22.0	LOS B	20.5	149.1	0.75	0.83	0.93	36.9
All Vehicles		4278	4.1	0.778	14.1	LOS A	20.5	149.1	0.43	0.68	0.50	41.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	36.8	LOS D	0.1	0.1	0.93	0.93	
P3	North Full Crossing	50	15.3	LOS B	0.1	0.1	0.60	0.60	
P7	NorthWest Full Crossing	50	23.4	LOS C	0.1	0.1	0.74	0.74	
All Pedestrians		150	25.2	LOS C			0.76	0.76	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1. Georgiana Tce and Dane Drv PM]

Georgiana Tce and Dane Dr
2017 Existing Traffic - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	198	2.0	0.339	2.1	LOS A	2.2	15.5	0.55	0.45	0.60	46.3
3	R2	271	0.0	0.339	7.3	LOS A	2.2	15.5	0.55	0.45	0.60	35.9
Approach		469	0.9	0.339	5.1	NA	2.2	15.5	0.55	0.45	0.60	39.6
East: Georgiana Tce (E)												
4	L2	289	0.3	0.340	5.3	LOS A	1.7	11.9	0.48	0.65	0.52	32.4
6	R2	30	0.0	0.340	11.9	LOS A	1.7	11.9	0.48	0.65	0.52	37.9
Approach		319	0.3	0.340	5.9	LOS A	1.7	11.9	0.48	0.65	0.52	33.1
North: Dane Drive (N)												
7	L2	139	0.0	0.232	5.5	LOS A	0.0	0.0	0.00	0.19	0.00	52.8
8	T1	303	1.3	0.232	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	54.5
Approach		442	0.9	0.232	1.8	NA	0.0	0.0	0.00	0.19	0.00	53.8
All Vehicles		1230	0.7	0.340	4.1	NA	2.2	15.5	0.33	0.41	0.36	41.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2. Georgiana Tce and Baker St PM]

Georgiana Tce and Baker Street
2017 Existing Traffic - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	45	0.0	0.442	6.9	LOS A	3.6	25.2	0.50	0.30	0.65	31.3
5	T1	355	0.0	0.442	2.5	LOS A	3.6	25.2	0.50	0.30	0.65	32.0
6	R2	214	0.0	0.442	7.2	LOS A	3.6	25.2	0.50	0.30	0.65	33.9
Approach		614	0.0	0.442	4.5	NA	3.6	25.2	0.50	0.30	0.65	32.8
North: Baker Street (N)												
7	L2	201	0.0	0.524	9.5	LOS A	3.2	22.7	0.65	1.01	1.09	26.7
8	T1	4	0.0	0.524	15.1	LOS B	3.2	22.7	0.65	1.01	1.09	25.9
9	R2	38	2.6	0.524	39.3	LOS C	3.2	22.7	0.65	1.01	1.09	26.5
Approach		243	0.4	0.524	14.2	LOS A	3.2	22.7	0.65	1.01	1.09	26.7
West: Georgiana Terrace (W)												
10	L2	95	0.0	0.216	3.4	LOS A	0.0	0.1	0.00	0.11	0.00	39.4
11	T1	320	0.0	0.216	0.0	LOS A	0.0	0.1	0.00	0.11	0.00	38.3
12	R2	1	0.0	0.216	5.7	LOS A	0.0	0.1	0.00	0.11	0.00	36.6
Approach		416	0.0	0.216	0.8	NA	0.0	0.1	0.00	0.11	0.00	38.6
All Vehicles		1273	0.1	0.524	5.1	NA	3.6	25.2	0.37	0.37	0.52	32.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: ☐ [☐. Georgiana Tce and Mann St PM]

Mann St and Georgiana Tce
2017 Existing Traffic - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	242	0.0	0.411	3.7	LOS A	3.5	24.4	0.36	0.43	0.36	34.2
2	T1	278	0.0	0.411	3.2	LOS A	3.5	24.4	0.36	0.43	0.36	36.0
3	R2	12	0.0	0.411	6.0	LOS A	3.5	24.4	0.36	0.43	0.36	32.4
Approach		532	0.0	0.411	3.5	LOS A	3.5	24.4	0.36	0.43	0.36	35.3
East: Georgiana Terrace (E)												
4	L2	20	0.0	0.098	9.4	LOS A	0.6	4.1	0.74	0.75	0.74	28.9
5	T1	23	0.0	0.098	9.1	LOS A	0.6	4.1	0.74	0.75	0.74	28.3
6	R2	18	0.0	0.098	11.9	LOS A	0.6	4.1	0.74	0.75	0.74	31.0
Approach		61	0.0	0.098	10.0	LOS A	0.6	4.1	0.74	0.75	0.74	29.4
North: Mann Street (N)												
7	L2	10	0.0	0.429	6.2	LOS A	3.3	22.9	0.71	0.68	0.71	32.9
8	T1	327	0.0	0.429	5.7	LOS A	3.3	22.9	0.71	0.68	0.71	34.5
9	R2	35	0.0	0.429	8.5	LOS A	3.3	22.9	0.71	0.68	0.71	33.8
Approach		372	0.0	0.429	6.0	LOS A	3.3	22.9	0.71	0.68	0.71	34.4
West: Georgiana Terrace (W)												
10	L2	137	0.0	0.469	6.7	LOS A	3.3	23.0	0.64	0.73	0.64	32.2
11	T1	6	0.0	0.469	6.3	LOS A	3.3	23.0	0.64	0.73	0.64	30.6
12	R2	303	0.0	0.469	9.1	LOS A	3.3	23.0	0.64	0.73	0.64	32.0
Approach		446	0.0	0.469	8.4	LOS A	3.3	23.0	0.64	0.73	0.64	32.0
All Vehicles		1411	0.0	0.469	6.0	LOS A	3.5	24.4	0.56	0.61	0.56	33.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4. Mann St and Vaughan Ave PM]

New Site
 Site Category: (None)
 Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	2	0.0	0.210	4.3	LOS A	0.0	0.1	0.00	0.00	0.00	41.1
2	T1	397	3.5	0.210	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	40.0
Approach		399	3.5	0.210	0.0	NA	0.0	0.1	0.00	0.00	0.00	40.0
North: Mann Street (N)												
8	T1	666	3.1	0.353	0.0	LOS A	0.1	0.5	0.01	0.00	0.01	39.9
9a	R1	5	0.0	0.353	5.3	LOS A	0.1	0.5	0.01	0.00	0.01	40.0
Approach		671	3.1	0.353	0.1	NA	0.1	0.5	0.01	0.00	0.01	39.9
SouthWest: Vaughan Avenue (SW)												
30a	L1	97	5.6	0.125	5.4	LOS A	0.5	3.4	0.50	0.66	0.50	32.0
32b	R3	10	0.0	0.125	13.8	LOS A	0.5	3.4	0.50	0.66	0.50	33.9
Approach		107	5.0	0.125	6.1	LOS A	0.5	3.4	0.50	0.66	0.50	32.3
All Vehicles		1177	3.4	0.353	0.6	NA	0.5	3.4	0.05	0.06	0.05	39.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5. Central Coast Hwy and Dane Drv PM]

Central Coast Hwy and Dane Drv
2017 Existing Traffic - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	13	0.0	0.473	5.4	LOS A	4.6	32.8	0.56	0.50	0.56	52.3
22	T1	943	2.7	0.473	5.1	LOS A	4.6	32.8	0.57	0.53	0.57	53.9
23	R2	228	2.2	0.473	10.1	LOS A	4.4	31.8	0.58	0.58	0.58	45.8
Approach		1184	2.5	0.473	6.1	LOS A	4.6	32.8	0.57	0.54	0.57	52.8
NorthEast: Dane Drive (NE)												
24	L2	294	1.4	1.942	1715.7	LOS F	366.7	2585.8	1.00	14.78	30.61	1.2
25	T1	8	0.0	1.942	1717.6	LOS F	366.7	2585.8	1.00	14.78	30.61	1.2
26	R2	280	0.4	1.942	1721.5	LOS F	366.7	2585.8	1.00	14.78	30.61	1.2
Approach		582	0.9	1.942	1718.5	LOS F	366.7	2585.8	1.00	14.78	30.61	1.2
NorthWest: Central Coast Hwy (NW)												
27	L2	235	0.0	0.966	28.3	LOS B	44.0	310.0	1.00	1.36	2.11	27.7
28	T1	1990	1.1	0.966	31.1	LOS C	44.0	310.0	1.00	1.42	2.21	39.7
29	R2	6	0.0	0.966	37.5	LOS C	43.2	305.2	1.00	1.48	2.31	38.8
Approach		2231	0.9	0.966	30.8	LOS C	44.0	310.0	1.00	1.42	2.20	38.6
SouthWest: Dane Drive (SW)												
30	L2	19	0.0	0.105	7.0	LOS A	0.5	3.2	0.69	0.83	0.69	52.0
31	T1	20	0.0	0.105	7.5	LOS A	0.5	3.2	0.69	0.83	0.69	32.5
32	R2	25	0.0	0.105	12.3	LOS A	0.5	3.2	0.69	0.83	0.69	52.6
Approach		64	0.0	0.105	9.3	LOS A	0.5	3.2	0.69	0.83	0.69	46.3
All Vehicles		4061	1.4	1.942	265.1	LOS F	366.7	2585.8	0.87	3.07	5.77	10.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6. Central Coast Hwy and Mann Street PM]

Central Coast Hwy, Masons Parade and Mann Street

2017 Existing Traffic - PM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	1170	2.6	0.382	5.0	LOS A	1.1	7.6	0.03	0.57	0.03	50.7
2	T1	254	5.5	0.736	51.9	LOS D	14.2	104.2	0.98	0.85	1.03	19.5
Approach		1424	3.2	0.736	13.4	LOS A	14.2	104.2	0.20	0.62	0.21	42.2
North: Mann Street (N)												
8	T1	626	3.2	0.894	62.0	LOS E	20.2	145.2	1.00	1.05	1.26	15.7
Approach		626	3.2	0.894	62.0	LOS E	20.2	145.2	1.00	1.05	1.26	15.7
NorthWest: Central Coast Hwy (NW)												
27b	L3	15	0.0	0.889	12.3	LOS A	20.4	144.2	0.26	0.66	0.47	48.9
29a	R1	2400	1.1	0.889	10.3	LOS A	24.3	171.4	0.29	0.67	0.41	45.6
Approach		2415	1.1	0.889	10.3	LOS A	24.3	171.4	0.29	0.67	0.41	45.7
All Vehicles		4465	2.1	0.894	18.5	LOS B	24.3	171.4	0.36	0.71	0.47	37.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
P3	North Full Crossing	50	7.0	LOS A	0.1	0.1	0.34	0.34	
P7	NorthWest Full Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
All Pedestrians		150	36.7	LOS D			0.73	0.73	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv AM]

Georgiana Tce and Dane Dr
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	372	1.2	0.514	5.7	LOS A	5.0	35.6	0.54	0.52	0.68	25.3
3	R2	422	0.6	0.514	7.4	LOS A	5.0	35.6	0.54	0.52	0.68	34.2
Approach		794	0.9	0.514	6.6	NA	5.0	35.6	0.54	0.52	0.68	29.4
East: Georgiana Tce (E)												
4	L2	266	0.9	0.387	5.6	LOS A	2.1	14.7	0.49	0.69	0.60	31.0
6	R2	36	0.0	0.387	21.4	LOS B	2.1	14.7	0.49	0.69	0.60	27.6
Approach		302	0.8	0.387	7.5	LOS A	2.1	14.7	0.49	0.69	0.60	30.4
North: Dane Drive (N)												
7	L2	39	2.3	0.164	1.1	LOS A	0.0	0.0	0.00	0.03	0.00	25.8
8	T1	273	2.5	0.164	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	24.9
Approach		312	2.5	0.164	0.1	NA	0.0	0.0	0.00	0.03	0.00	25.1
All Vehicles		1408	1.2	0.514	5.4	NA	5.0	35.6	0.41	0.44	0.51	28.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St AM]

Georgiana Tce and Baker Street
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	154	1.1	0.468	8.3	LOS A	4.4	31.2	0.60	0.31	0.88	27.9
5	T1	282	0.7	0.468	4.3	LOS A	4.4	31.2	0.60	0.31	0.88	29.3
6	R2	174	0.5	0.468	9.5	LOS A	4.4	31.2	0.60	0.31	0.88	31.7
Approach		610	0.7	0.468	6.8	NA	4.4	31.2	0.60	0.31	0.88	29.9
North: Baker Street (N)												
7	L2	68	0.0	0.240	6.8	LOS A	0.9	6.2	0.63	0.80	0.67	28.6
8	T1	9	0.0	0.240	12.1	LOS A	0.9	6.2	0.63	0.80	0.67	27.8
9	R2	19	0.0	0.240	27.8	LOS B	0.9	6.2	0.63	0.80	0.67	28.4
Approach		96	0.0	0.240	11.5	LOS A	0.9	6.2	0.63	0.80	0.67	28.5
West: Georgiana Terrace (W)												
10	L2	206	1.3	0.303	3.4	LOS A	0.0	0.3	0.01	0.17	0.01	38.8
11	T1	368	0.3	0.303	0.0	LOS A	0.0	0.3	0.01	0.17	0.01	37.5
12	R2	2	5.0	0.303	6.4	LOS A	0.0	0.3	0.01	0.17	0.01	35.5
Approach		576	0.6	0.303	1.3	NA	0.0	0.3	0.01	0.17	0.01	38.1
All Vehicles		1282	0.6	0.468	4.7	NA	4.4	31.2	0.34	0.28	0.47	33.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: ☐ [☐ Georgiana Tce and Mann St AM]

Mann St and Georgiana Tce
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	436	1.1	0.738	4.5	LOS A	10.7	77.2	0.67	0.49	0.67	31.8
2	T1	494	5.9	0.738	4.1	LOS A	10.7	77.2	0.67	0.49	0.67	34.8
3	R2	11	0.0	0.738	6.8	LOS A	10.7	77.2	0.67	0.49	0.67	32.5
Approach		941	3.6	0.738	4.3	LOS A	10.7	77.2	0.67	0.49	0.67	33.6
East: Georgiana Terrace (E)												
4	L2	4	0.0	0.017	6.2	LOS A	0.1	0.7	0.61	0.57	0.61	30.6
5	T1	6	0.0	0.017	5.7	LOS A	0.1	0.7	0.61	0.57	0.61	29.7
6	R2	3	0.0	0.017	8.5	LOS A	0.1	0.7	0.61	0.57	0.61	32.7
Approach		13	0.0	0.017	6.5	LOS A	0.1	0.7	0.61	0.57	0.61	30.8
North: Mann Street (N)												
7	L2	12	0.0	0.338	4.5	LOS A	2.6	19.1	0.53	0.55	0.53	33.0
8	T1	245	10.7	0.338	4.3	LOS A	2.6	19.1	0.53	0.55	0.53	34.9
9	R2	84	0.0	0.338	6.8	LOS A	2.6	19.1	0.53	0.55	0.53	33.9
Approach		341	7.7	0.338	4.9	LOS A	2.6	19.1	0.53	0.55	0.53	34.6
West: Georgiana Terrace (W)												
10	L2	96	0.0	0.346	7.0	LOS A	2.3	16.0	0.74	0.80	0.74	30.7
11	T1	31	0.0	0.346	6.4	LOS A	2.3	16.0	0.74	0.80	0.74	27.9
12	R2	129	0.7	0.346	9.2	LOS A	2.3	16.0	0.74	0.80	0.74	30.2
Approach		256	0.4	0.346	8.1	LOS A	2.3	16.0	0.74	0.80	0.74	30.2
All Vehicles		1551	3.9	0.738	5.1	LOS A	10.7	77.2	0.65	0.56	0.65	33.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave AM]

Mann St and Vaughan Ave
2022 Base - AM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	12	3.3	0.506	4.5	LOS A	0.1	1.0	0.01	0.01	0.01	41.1
2	T1	946	3.4	0.506	0.0	LOS A	0.1	1.0	0.01	0.01	0.01	39.9
Approach		958	3.4	0.506	0.1	NA	0.1	1.0	0.01	0.01	0.01	39.9
North: Mann Street (N)												
8	T1	387	7.3	0.232	0.9	LOS A	0.4	3.3	0.10	0.01	0.11	38.8
9a	R1	9	10.0	0.232	14.2	LOS A	0.4	3.3	0.10	0.01	0.11	38.7
Approach		397	7.4	0.232	1.2	NA	0.4	3.3	0.10	0.01	0.11	38.8
SouthWest: Vaughan Avenue (SW)												
30a	L1	41	14.3	0.114	12.7	LOS A	0.4	2.9	0.79	0.89	0.79	26.7
32b	R3	2	0.0	0.012	21.1	LOS B	0.0	0.2	0.86	0.94	0.86	25.3
Approach		43	13.6	0.114	13.1	LOS A	0.4	2.9	0.79	0.89	0.79	26.6
All Vehicles		1398	4.8	0.506	0.8	NA	0.4	3.3	0.06	0.03	0.06	39.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv AM]

Central Coast Hwy and Dane Drv
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	12	0.0	0.970	30.8	LOS C	44.9	321.8	1.00	1.43	2.21	39.3
22	T1	1608	2.7	0.970	32.1	LOS C	44.9	321.8	1.00	1.46	2.27	39.5
23	R2	505	1.0	0.970	40.3	LOS C	44.0	312.6	1.00	1.52	2.39	28.2
Approach		2125	2.3	0.970	34.0	LOS C	44.9	321.8	1.00	1.47	2.30	37.2
NorthEast: Dane Drive (NE)												
24	L2	262	2.3	1.012	95.3	LOS F	36.7	261.0	1.00	3.32	5.59	15.6
25	T1	10	0.0	1.012	97.0	LOS F	36.7	261.0	1.00	3.32	5.59	16.1
26	R2	265	1.2	1.012	97.1	LOS F	36.7	261.0	1.00	3.32	5.59	16.2
Approach		537	1.7	1.012	96.2	LOS F	36.7	261.0	1.00	3.32	5.59	15.9
NorthWest: Central Coast Hwy (NW)												
27	L2	287	0.6	0.893	24.8	LOS B	22.3	159.9	1.00	1.36	2.00	28.9
28	T1	1157	4.2	0.893	27.2	LOS B	22.3	159.9	1.00	1.40	2.06	41.4
29	R2	8	0.0	0.893	32.6	LOS C	20.8	150.4	1.00	1.43	2.11	40.8
Approach		1452	3.4	0.893	26.7	LOS B	22.3	159.9	1.00	1.39	2.05	39.3
SouthWest: Dane Drive (SW)												
30	L2	2	0.0	0.032	14.4	LOS A	0.2	1.2	0.90	0.88	0.90	48.0
31	T1	5	0.0	0.032	14.9	LOS B	0.2	1.2	0.90	0.88	0.90	29.8
32	R2	1	0.0	0.032	19.7	LOS B	0.2	1.2	0.90	0.88	0.90	48.4
Approach		8	0.0	0.032	15.4	LOS B	0.2	1.2	0.90	0.88	0.90	36.9
All Vehicles		4122	2.6	1.012	39.5	LOS C	44.9	321.8	1.00	1.68	2.64	33.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street AM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - AM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 100 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	2172	2.2	0.801	6.2	LOS A	9.1	64.8	0.19	0.63	0.19	49.3
2	T1	574	4.0	0.795	29.1	LOS C	24.2	174.9	0.89	0.82	0.93	27.7
Approach		2746	2.5	0.801	11.0	LOS A	24.2	174.9	0.34	0.67	0.34	44.2
North: Mann Street (N)												
8	T1	325	8.0	0.231	20.6	LOS B	4.4	33.0	0.59	0.49	0.59	27.5
Approach		325	8.0	0.231	20.6	LOS B	4.4	33.0	0.59	0.49	0.59	27.5
NorthWest: Central Coast Hwy (NW)												
27b	L3	28	12.5	0.778	26.6	LOS B	24.1	174.4	0.74	0.83	1.05	37.9
29a	R1	1418	3.4	0.778	23.0	LOS B	24.6	177.5	0.74	0.82	0.90	36.3
Approach		1446	3.6	0.778	23.0	LOS B	24.6	177.5	0.74	0.82	0.90	36.3
All Vehicles		4517	3.3	0.801	15.6	LOS B	24.6	177.5	0.48	0.70	0.54	40.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	38.8	LOS D	0.1	0.1	0.88	0.88	
P3	North Full Crossing	50	16.3	LOS B	0.1	0.1	0.57	0.57	
P7	NorthWest Full Crossing	50	44.3	LOS E	0.1	0.1	0.94	0.94	
All Pedestrians		150	33.1	LOS D			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv PM]

Georgiana Tce and Dane Dr
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	210	1.7	0.360	2.4	LOS A	2.5	17.6	0.57	0.46	0.65	45.8
3	R2	279	0.0	0.360	7.6	LOS A	2.5	17.6	0.57	0.46	0.65	35.6
Approach		489	0.7	0.360	5.4	NA	2.5	17.6	0.57	0.46	0.65	39.3
East: Georgiana Tce (E)												
4	L2	291	0.3	0.354	5.6	LOS A	1.8	12.9	0.50	0.69	0.57	32.1
6	R2	31	0.0	0.354	12.7	LOS A	1.8	12.9	0.50	0.69	0.57	37.6
Approach		322	0.3	0.354	6.3	LOS A	1.8	12.9	0.50	0.69	0.57	32.8
North: Dane Drive (N)												
7	L2	146	0.0	0.244	5.5	LOS A	0.0	0.0	0.00	0.19	0.00	52.9
8	T1	321	1.1	0.244	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	54.5
Approach		467	0.7	0.244	1.7	NA	0.0	0.0	0.00	0.19	0.00	53.8
All Vehicles		1278	0.6	0.360	4.3	NA	2.5	17.6	0.34	0.42	0.39	41.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St PM]

Georgiana Tce and Baker Street
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	45	0.0	0.397	6.7	LOS A	3.0	20.8	0.49	0.29	0.61	31.5
5	T1	313	0.0	0.397	2.4	LOS A	3.0	20.8	0.49	0.29	0.61	32.2
6	R2	190	0.0	0.397	7.0	LOS A	3.0	20.8	0.49	0.29	0.61	34.0
Approach		548	0.0	0.397	4.4	NA	3.0	20.8	0.49	0.29	0.61	33.0
North: Baker Street (N)												
7	L2	207	0.0	0.507	9.0	LOS A	3.1	21.6	0.64	0.98	1.04	27.5
8	T1	4	0.0	0.507	13.4	LOS A	3.1	21.6	0.64	0.98	1.04	26.8
9	R2	40	2.2	0.507	33.6	LOS C	3.1	21.6	0.64	0.98	1.04	27.3
Approach		251	0.3	0.507	12.9	LOS A	3.1	21.6	0.64	0.98	1.04	27.5
West: Georgiana Terrace (W)												
10	L2	100	0.0	0.223	3.4	LOS A	0.0	0.1	0.00	0.11	0.00	39.3
11	T1	329	0.0	0.223	0.0	LOS A	0.0	0.1	0.00	0.11	0.00	38.3
12	R2	1	0.0	0.223	5.4	LOS A	0.0	0.1	0.00	0.11	0.00	36.6
Approach		430	0.0	0.223	0.8	NA	0.0	0.1	0.00	0.11	0.00	38.6
All Vehicles		1229	0.1	0.507	4.9	NA	3.1	21.6	0.35	0.37	0.48	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: ☐ [☐ Georgiana Tce and Mann St PM]

Mann St and Georgiana Tce
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	214	0.0	0.414	3.7	LOS A	3.5	24.6	0.37	0.43	0.37	34.1
2	T1	308	0.0	0.414	3.3	LOS A	3.5	24.6	0.37	0.43	0.37	36.0
3	R2	10	0.0	0.414	6.0	LOS A	3.5	24.6	0.37	0.43	0.37	32.4
Approach		532	0.0	0.414	3.5	LOS A	3.5	24.6	0.37	0.43	0.37	35.3
East: Georgiana Terrace (E)												
4	L2	22	0.0	0.107	9.7	LOS A	0.7	4.6	0.75	0.77	0.75	28.6
5	T1	24	0.0	0.107	9.4	LOS A	0.7	4.6	0.75	0.77	0.75	27.9
6	R2	19	0.0	0.107	12.2	LOS A	0.7	4.6	0.75	0.77	0.75	30.7
Approach		65	0.0	0.107	10.3	LOS A	0.7	4.6	0.75	0.77	0.75	29.1
North: Mann Street (N)												
7	L2	10	0.0	0.456	6.4	LOS A	3.5	24.8	0.74	0.70	0.74	32.7
8	T1	342	0.0	0.456	5.9	LOS A	3.5	24.8	0.74	0.70	0.74	34.3
9	R2	36	0.0	0.456	8.7	LOS A	3.5	24.8	0.74	0.70	0.74	33.6
Approach		388	0.0	0.456	6.2	LOS A	3.5	24.8	0.74	0.70	0.74	34.3
West: Georgiana Terrace (W)												
10	L2	139	0.0	0.502	7.2	LOS A	3.6	25.5	0.68	0.76	0.69	31.8
11	T1	9	0.0	0.502	6.7	LOS A	3.6	25.5	0.68	0.76	0.69	30.0
12	R2	315	0.0	0.502	9.5	LOS A	3.6	25.5	0.68	0.76	0.69	31.5
Approach		463	0.0	0.502	8.8	LOS A	3.6	25.5	0.68	0.76	0.69	31.6
All Vehicles		1448	0.0	0.502	6.2	LOS A	3.6	25.5	0.58	0.62	0.59	33.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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V210304sid-N131975 26 Mann St 2023 Base.sip8

MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave PM]

Mann St and Vaughan Ave
2022 Base - PM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	2	0.0	0.231	4.3	LOS A	0.0	0.1	0.00	0.00	0.00	41.1
2	T1	440	2.8	0.231	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	40.0
Approach		442	2.8	0.231	0.0	NA	0.0	0.1	0.00	0.00	0.00	40.0
North: Mann Street (N)												
8	T1	733	2.7	0.388	0.1	LOS A	0.1	0.8	0.02	0.00	0.02	39.9
9a	R1	6	0.0	0.388	5.7	LOS A	0.1	0.8	0.02	0.00	0.02	40.4
Approach		739	2.7	0.388	0.1	NA	0.1	0.8	0.02	0.00	0.02	39.9
SouthWest: Vaughan Avenue (SW)												
30a	L1	96	4.3	0.099	5.6	LOS A	0.4	2.8	0.49	0.66	0.49	32.6
32b	R3	6	0.0	0.023	14.8	LOS B	0.1	0.5	0.79	0.91	0.79	28.3
Approach		102	4.1	0.099	6.1	LOS A	0.4	2.8	0.51	0.67	0.51	32.2
All Vehicles		1283	2.8	0.388	0.6	NA	0.4	2.8	0.05	0.06	0.05	39.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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\\210304sid-N131975 26 Mann St 2023 Base.sip8

MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv PM]

Central Coast Hwy and Dane Drv
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	14	0.0	0.480	5.2	LOS A	4.8	34.2	0.51	0.47	0.51	52.5
22	T1	1001	2.2	0.480	4.9	LOS A	4.8	34.2	0.52	0.50	0.52	54.2
23	R2	242	1.8	0.480	9.8	LOS A	4.7	33.2	0.53	0.55	0.53	46.0
Approach		1257	2.1	0.480	5.8	LOS A	4.8	34.2	0.52	0.51	0.52	53.0
NorthEast: Dane Drive (NE)												
24	L2	312	1.1	2.512	2740.0	LOS F	468.2	3297.5	1.00	15.56	33.39	0.8
25	T1	9	0.0	2.512	2741.8	LOS F	468.2	3297.5	1.00	15.56	33.39	0.8
26	R2	281	0.3	2.512	2743.9	LOS F	468.2	3297.5	1.00	15.56	33.39	0.8
Approach		602	0.7	2.512	2741.8	LOS F	468.2	3297.5	1.00	15.56	33.39	0.8
NorthWest: Central Coast Hwy (NW)												
27	L2	241	0.0	1.033	91.4	LOS F	101.0	711.5	1.00	2.89	4.94	15.3
28	T1	2110	0.9	1.033	94.4	LOS F	101.0	711.5	1.00	2.89	4.99	23.4
29	R2	7	0.0	1.033	101.1	LOS F	92.3	651.1	1.00	2.88	5.04	23.3
Approach		2358	0.8	1.033	94.1	LOS F	101.0	711.5	1.00	2.89	4.99	22.6
SouthWest: Dane Drive (SW)												
30	L2	20	0.0	0.111	7.1	LOS A	0.5	3.3	0.69	0.84	0.69	52.0
31	T1	21	0.0	0.111	7.6	LOS A	0.5	3.3	0.69	0.84	0.69	32.5
32	R2	27	0.0	0.111	12.4	LOS A	0.5	3.3	0.69	0.84	0.69	52.5
Approach		68	0.0	0.111	9.3	LOS A	0.5	3.3	0.69	0.84	0.69	46.3
All Vehicles		4285	1.1	2.512	438.9	LOS F	468.2	3297.5	0.85	3.94	7.60	6.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street PM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - PM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	1242	2.2	0.430	5.1	LOS A	1.2	8.8	0.04	0.57	0.04	50.5
2	T1	266	3.7	0.762	52.7	LOS D	15.1	109.2	0.98	0.87	1.05	19.3
Approach		1508	2.4	0.762	13.5	LOS A	15.1	109.2	0.20	0.62	0.22	42.1
North: Mann Street (N)												
8	T1	651	2.8	0.927	68.1	LOS E	22.4	160.2	1.00	1.14	1.36	14.8
Approach		651	2.8	0.927	68.1	LOS E	22.4	160.2	1.00	1.14	1.36	14.8
NorthWest: Central Coast Hwy (NW)												
27b	L3	16	0.0	0.939	24.3	LOS B	42.1	297.1	0.40	0.76	0.70	40.3
29a	R1	2538	0.9	0.939	22.2	LOS B	47.1	332.1	0.44	0.77	0.64	36.8
Approach		2554	0.9	0.939	22.2	LOS B	47.1	332.1	0.44	0.77	0.64	36.9
All Vehicles		4713	1.7	0.939	25.8	LOS B	47.1	332.1	0.44	0.77	0.61	33.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
P3	North Full Crossing	50	7.0	LOS A	0.1	0.1	0.34	0.34	
P7	NorthWest Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
All Pedestrians		150	36.7	LOS D			0.73	0.73	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv AM]

Georgiana Tce and Dane Dr
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	372	1.2	0.522	5.7	LOS A	5.3	37.0	0.55	0.52	0.70	25.3
3	R2	433	0.6	0.522	7.5	LOS A	5.3	37.0	0.55	0.52	0.70	34.1
Approach		805	0.9	0.522	6.7	NA	5.3	37.0	0.55	0.52	0.70	29.4
East: Georgiana Tce (E)												
4	L2	285	0.9	0.408	5.8	LOS A	2.3	16.4	0.50	0.70	0.63	30.9
6	R2	36	0.0	0.408	22.4	LOS B	2.3	16.4	0.50	0.70	0.63	27.6
Approach		321	0.8	0.408	7.6	LOS A	2.3	16.4	0.50	0.70	0.63	30.3
North: Dane Drive (N)												
7	L2	39	2.3	0.164	1.1	LOS A	0.0	0.0	0.00	0.03	0.00	25.8
8	T1	273	2.5	0.164	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	24.9
Approach		312	2.5	0.164	0.1	NA	0.0	0.0	0.00	0.03	0.00	25.1
All Vehicles		1438	1.2	0.522	5.5	NA	5.3	37.0	0.42	0.45	0.53	28.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St AM]

Georgiana Tce and Baker Street
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	181	1.1	0.492	8.3	LOS A	4.8	34.1	0.60	0.30	0.90	27.8
5	T1	301	0.7	0.492	4.3	LOS A	4.8	34.1	0.60	0.30	0.90	29.2
6	R2	174	0.5	0.492	9.8	LOS A	4.8	34.1	0.60	0.30	0.90	31.6
Approach		656	0.8	0.492	6.9	NA	4.8	34.1	0.60	0.30	0.90	29.7
North: Baker Street (N)												
7	L2	68	0.0	0.252	7.0	LOS A	0.9	6.5	0.64	0.82	0.71	28.1
8	T1	9	0.0	0.252	13.6	LOS A	0.9	6.5	0.64	0.82	0.71	27.3
9	R2	19	0.0	0.252	30.0	LOS C	0.9	6.5	0.64	0.82	0.71	27.9
Approach		96	0.0	0.252	12.2	LOS A	0.9	6.5	0.64	0.82	0.71	28.0
West: Georgiana Terrace (W)												
10	L2	206	1.3	0.315	3.7	LOS A	0.3	2.1	0.06	0.17	0.06	38.4
11	T1	368	0.3	0.315	0.2	LOS A	0.3	2.1	0.06	0.17	0.06	36.9
12	R2	14	5.0	0.315	6.8	LOS A	0.3	2.1	0.06	0.17	0.06	34.9
Approach		588	0.7	0.315	1.6	NA	0.3	2.1	0.06	0.17	0.06	37.5
All Vehicles		1340	0.7	0.492	4.9	NA	4.8	34.1	0.37	0.28	0.52	32.6

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 3 [3 Georgiana Tce and Mann St AM]

Mann St and Georgiana Tce
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	474	1.1	0.786	4.8	LOS A	12.5	90.5	0.77	0.52	0.77	31.4
2	T1	506	5.9	0.786	4.5	LOS A	12.5	90.5	0.77	0.52	0.77	34.4
3	R2	11	0.0	0.786	7.1	LOS A	12.5	90.5	0.77	0.52	0.77	32.0
Approach		991	3.5	0.786	4.7	LOS A	12.5	90.5	0.77	0.52	0.77	33.1
East: Georgiana Terrace (E)												
4	L2	4	0.0	0.017	6.3	LOS A	0.1	0.7	0.62	0.57	0.62	30.6
5	T1	6	0.0	0.017	5.8	LOS A	0.1	0.7	0.62	0.57	0.62	29.6
6	R2	3	0.0	0.017	8.6	LOS A	0.1	0.7	0.62	0.57	0.62	32.6
Approach		13	0.0	0.017	6.6	LOS A	0.1	0.7	0.62	0.57	0.62	30.8
North: Mann Street (N)												
7	L2	12	0.0	0.345	4.5	LOS A	2.6	19.7	0.53	0.55	0.53	32.9
8	T1	245	10.7	0.345	4.3	LOS A	2.6	19.7	0.53	0.55	0.53	34.9
9	R2	92	0.0	0.345	6.8	LOS A	2.6	19.7	0.53	0.55	0.53	33.9
Approach		349	7.5	0.345	4.9	LOS A	2.6	19.7	0.53	0.55	0.53	34.6
West: Georgiana Terrace (W)												
10	L2	96	0.0	0.356	7.1	LOS A	2.4	16.8	0.76	0.81	0.76	30.6
11	T1	31	0.0	0.356	6.5	LOS A	2.4	16.8	0.76	0.81	0.76	27.8
12	R2	129	0.7	0.356	9.3	LOS A	2.4	16.8	0.76	0.81	0.76	30.1
Approach		256	0.4	0.356	8.2	LOS A	2.4	16.8	0.76	0.81	0.76	30.1
All Vehicles		1609	3.9	0.786	5.3	LOS A	12.5	90.5	0.72	0.58	0.72	33.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave AM]

Mann St and Vaughan Ave
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	12	3.3	0.516	4.5	LOS A	0.1	1.0	0.01	0.01	0.01	41.1
2	T1	966	3.4	0.516	0.0	LOS A	0.1	1.0	0.01	0.01	0.01	39.9
Approach		978	3.4	0.516	0.1	NA	0.1	1.0	0.01	0.01	0.01	39.9
North: Mann Street (N)												
8	T1	387	7.3	0.234	1.0	LOS A	0.5	3.5	0.10	0.01	0.11	38.7
9a	R1	9	10.0	0.234	14.9	LOS B	0.5	3.5	0.10	0.01	0.11	38.5
Approach		397	7.4	0.234	1.3	NA	0.5	3.5	0.10	0.01	0.11	38.7
SouthWest: Vaughan Avenue (SW)												
30a	L1	75	14.3	0.218	14.1	LOS A	0.7	5.9	0.82	0.93	0.87	25.8
32b	R3	36	0.0	0.210	24.7	LOS B	0.6	4.2	0.89	0.97	0.95	23.8
Approach		111	9.7	0.218	17.5	LOS B	0.7	5.9	0.84	0.94	0.90	25.0
All Vehicles		1485	4.9	0.516	1.7	NA	0.7	5.9	0.09	0.08	0.10	38.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv AM]

Central Coast Hwy and Dane Drv
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	12	0.0	0.987	42.0	LOS C	55.1	394.4	1.00	1.72	2.76	35.1
22	T1	1608	2.7	0.987	43.4	LOS D	55.1	394.4	1.00	1.75	2.81	35.2
23	R2	505	1.0	0.987	52.1	LOS D	52.9	376.1	1.00	1.81	2.94	24.4
Approach		2125	2.3	0.987	45.5	LOS D	55.1	394.4	1.00	1.76	2.84	32.9
NorthEast: Dane Drive (NE)												
24	L2	262	2.3	1.033	120.8	LOS F	47.3	336.2	1.00	3.95	6.82	13.1
25	T1	10	0.0	1.033	122.6	LOS F	47.3	336.2	1.00	3.95	6.82	13.6
26	R2	284	1.2	1.033	122.7	LOS F	47.3	336.2	1.00	3.95	6.82	13.6
Approach		556	1.7	1.033	121.8	LOS F	47.3	336.2	1.00	3.95	6.82	13.4
NorthWest: Central Coast Hwy (NW)												
27	L2	299	0.6	0.899	25.7	LOS B	23.2	166.2	1.00	1.38	2.05	28.6
28	T1	1157	4.2	0.899	28.2	LOS B	23.2	166.2	1.00	1.42	2.12	41.0
29	R2	8	0.0	0.899	33.6	LOS C	21.6	156.3	1.00	1.45	2.16	40.4
Approach		1464	3.4	0.899	27.7	LOS B	23.2	166.2	1.00	1.41	2.10	38.7
SouthWest: Dane Drive (SW)												
30	L2	2	0.0	0.032	14.6	LOS B	0.2	1.2	0.90	0.88	0.90	47.9
31	T1	5	0.0	0.032	15.1	LOS B	0.2	1.2	0.90	0.88	0.90	29.8
32	R2	1	0.0	0.032	19.9	LOS B	0.2	1.2	0.90	0.88	0.90	48.3
Approach		8	0.0	0.032	15.6	LOS B	0.2	1.2	0.90	0.88	0.90	36.8
All Vehicles		4153	2.6	1.033	49.4	LOS D	55.1	394.4	1.00	1.93	3.11	30.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street AM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - AM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 105 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	2172	2.2	0.786	5.5	LOS A	5.3	37.9	0.11	0.60	0.11	50.1
2	T1	593	4.0	0.799	29.4	LOS C	25.9	187.7	0.88	0.82	0.92	27.6
Approach		2765	2.6	0.799	10.7	LOS A	25.9	187.7	0.27	0.64	0.28	44.5
North: Mann Street (N)												
8	T1	357	8.0	0.247	20.9	LOS B	5.0	37.4	0.58	0.48	0.58	27.4
Approach		357	8.0	0.247	20.9	LOS B	5.0	37.4	0.58	0.48	0.58	27.4
NorthWest: Central Coast Hwy (NW)												
27b	L3	28	12.5	0.785	28.3	LOS B	25.9	186.9	0.75	0.84	1.07	37.1
29a	R1	1418	3.4	0.785	24.5	LOS B	26.4	190.0	0.76	0.83	0.92	35.4
Approach		1446	3.6	0.785	24.6	LOS B	26.4	190.0	0.76	0.83	0.92	35.5
All Vehicles		4568	3.3	0.799	15.9	LOS B	26.4	190.0	0.45	0.69	0.51	39.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	41.3	LOS E	0.1	0.1	0.89	0.89	
P3	North Full Crossing	50	17.2	LOS B	0.1	0.1	0.57	0.57	
P7	NorthWest Full Crossing	50	46.8	LOS E	0.1	0.1	0.94	0.94	
All Pedestrians		150	35.1	LOS D			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv PM]

Georgiana Tce and Dane Dr
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	210	1.7	0.371	2.5	LOS A	2.6	18.6	0.58	0.47	0.68	45.5
3	R2	292	0.0	0.371	7.7	LOS A	2.6	18.6	0.58	0.47	0.68	35.4
Approach		502	0.7	0.371	5.5	NA	2.6	18.6	0.58	0.47	0.68	39.0
East: Georgiana Tce (E)												
4	L2	301	0.3	0.366	5.6	LOS A	1.9	13.7	0.51	0.69	0.58	32.0
6	R2	31	0.0	0.366	13.2	LOS A	1.9	13.7	0.51	0.69	0.58	37.5
Approach		332	0.3	0.366	6.3	LOS A	1.9	13.7	0.51	0.69	0.58	32.7
North: Dane Drive (N)												
7	L2	146	0.0	0.244	5.5	LOS A	0.0	0.0	0.00	0.19	0.00	52.9
8	T1	321	1.1	0.244	0.0	LOS A	0.0	0.0	0.00	0.19	0.00	54.5
Approach		467	0.7	0.244	1.7	NA	0.0	0.0	0.00	0.19	0.00	53.8
All Vehicles		1301	0.6	0.371	4.4	NA	2.6	18.6	0.35	0.43	0.41	41.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St PM]

Georgiana Tce and Baker Street
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	74	0.0	0.418	6.7	LOS A	3.3	23.1	0.49	0.29	0.63	31.2
5	T1	323	0.0	0.418	2.5	LOS A	3.3	23.1	0.49	0.29	0.63	32.0
6	R2	190	0.0	0.418	7.2	LOS A	3.3	23.1	0.49	0.29	0.63	33.9
Approach		587	0.0	0.418	4.5	NA	3.3	23.1	0.49	0.29	0.63	32.7
North: Baker Street (N)												
7	L2	207	0.0	0.520	9.3	LOS A	3.2	22.5	0.65	1.00	1.08	27.1
8	T1	4	0.0	0.520	14.7	LOS B	3.2	22.5	0.65	1.00	1.08	26.3
9	R2	40	2.2	0.520	35.6	LOS C	3.2	22.5	0.65	1.00	1.08	26.9
Approach		251	0.3	0.520	13.5	LOS A	3.2	22.5	0.65	1.00	1.08	27.1
West: Georgiana Terrace (W)												
10	L2	100	0.0	0.233	3.7	LOS A	0.2	1.3	0.05	0.12	0.05	39.0
11	T1	329	0.0	0.233	0.1	LOS A	0.2	1.3	0.05	0.12	0.05	37.7
12	R2	13	0.0	0.233	5.7	LOS A	0.2	1.3	0.05	0.12	0.05	36.0
Approach		442	0.0	0.233	1.1	NA	0.2	1.3	0.05	0.12	0.05	38.1
All Vehicles		1280	0.1	0.520	5.1	NA	3.3	23.1	0.37	0.37	0.52	32.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 3 [3 Georgiana Tce and Mann St PM]

Mann St and Georgiana Tce
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	245	0.0	0.447	3.8	LOS A	3.9	27.4	0.40	0.44	0.40	34.0
2	T1	314	0.0	0.447	3.4	LOS A	3.9	27.4	0.40	0.44	0.40	35.9
3	R2	10	0.0	0.447	6.1	LOS A	3.9	27.4	0.40	0.44	0.40	32.2
Approach		569	0.0	0.447	3.6	LOS A	3.9	27.4	0.40	0.44	0.40	35.1
East: Georgiana Terrace (E)												
4	L2	22	0.0	0.109	9.8	LOS A	0.7	4.6	0.76	0.77	0.76	28.5
5	T1	24	0.0	0.109	9.5	LOS A	0.7	4.6	0.76	0.77	0.76	27.8
6	R2	19	0.0	0.109	12.3	LOS A	0.7	4.6	0.76	0.77	0.76	30.6
Approach		65	0.0	0.109	10.4	LOS A	0.7	4.6	0.76	0.77	0.76	29.0
North: Mann Street (N)												
7	L2	11	0.0	0.466	6.4	LOS A	3.7	25.7	0.74	0.71	0.74	32.6
8	T1	342	0.0	0.466	5.9	LOS A	3.7	25.7	0.74	0.71	0.74	34.3
9	R2	44	0.0	0.466	8.7	LOS A	3.7	25.7	0.74	0.71	0.74	33.6
Approach		397	0.0	0.466	6.2	LOS A	3.7	25.7	0.74	0.71	0.74	34.2
West: Georgiana Terrace (W)												
10	L2	139	0.0	0.506	7.3	LOS A	3.7	26.2	0.69	0.77	0.70	31.7
11	T1	9	0.0	0.506	6.9	LOS A	3.7	26.2	0.69	0.77	0.70	29.9
12	R2	315	0.0	0.506	9.7	LOS A	3.7	26.2	0.69	0.77	0.70	31.4
Approach		463	0.0	0.506	8.9	LOS A	3.7	26.2	0.69	0.77	0.70	31.5
All Vehicles		1494	0.0	0.506	6.2	LOS A	3.9	27.4	0.60	0.63	0.60	33.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave PM]

Mann St and Vaughan Ave
2022 Base - PM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	2	0.0	0.242	4.3	LOS A	0.0	0.1	0.00	0.00	0.00	41.1
2	T1	461	2.8	0.242	0.0	LOS A	0.0	0.1	0.00	0.00	0.00	40.0
Approach		463	2.8	0.242	0.0	NA	0.0	0.1	0.00	0.00	0.00	40.0
North: Mann Street (N)												
8	T1	733	2.7	0.388	0.1	LOS A	0.1	0.8	0.02	0.00	0.02	39.9
9a	R1	6	0.0	0.388	5.9	LOS A	0.1	0.8	0.02	0.00	0.02	40.4
Approach		739	2.7	0.388	0.1	NA	0.1	0.8	0.02	0.00	0.02	39.9
SouthWest: Vaughan Avenue (SW)												
30a	L1	114	4.3	0.121	5.7	LOS A	0.5	3.4	0.51	0.68	0.51	32.4
32b	R3	23	0.0	0.086	15.7	LOS B	0.2	1.7	0.80	0.91	0.80	27.8
Approach		137	3.6	0.121	7.4	LOS A	0.5	3.4	0.56	0.72	0.56	31.3
All Vehicles		1339	2.8	0.388	0.8	NA	0.5	3.4	0.07	0.08	0.07	39.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv PM]

Central Coast Hwy and Dane Drv
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	14	0.0	0.482	5.2	LOS A	4.8	34.3	0.52	0.47	0.52	52.5
22	T1	1001	2.2	0.482	4.9	LOS A	4.8	34.3	0.53	0.50	0.53	54.2
23	R2	242	1.8	0.482	9.8	LOS A	4.7	33.3	0.54	0.56	0.54	46.0
Approach		1257	2.1	0.482	5.9	LOS A	4.8	34.3	0.53	0.51	0.53	53.0
NorthEast: Dane Drive (NE)												
24	L2	312	1.1	2.532	2775.8	LOS F	478.3	3368.4	1.00	15.72	33.66	0.7
25	T1	9	0.0	2.532	2777.6	LOS F	478.3	3368.4	1.00	15.72	33.66	0.8
26	R2	291	0.3	2.532	2779.7	LOS F	478.3	3368.4	1.00	15.72	33.66	0.8
Approach		612	0.7	2.532	2777.6	LOS F	478.3	3368.4	1.00	15.72	33.66	0.8
NorthWest: Central Coast Hwy (NW)												
27	L2	253	0.0	1.039	99.4	LOS F	107.6	757.3	1.00	3.07	5.27	14.5
28	T1	2110	0.9	1.039	102.3	LOS F	107.6	757.3	1.00	3.05	5.31	22.3
29	R2	7	0.0	1.039	108.9	LOS F	97.8	689.8	1.00	3.04	5.35	22.2
Approach		2370	0.8	1.039	102.0	LOS F	107.6	757.3	1.00	3.05	5.30	21.5
SouthWest: Dane Drive (SW)												
30	L2	20	0.0	0.112	7.1	LOS A	0.5	3.3	0.69	0.84	0.69	52.0
31	T1	21	0.0	0.112	7.6	LOS A	0.5	3.3	0.69	0.84	0.69	32.5
32	R2	27	0.0	0.112	12.4	LOS A	0.5	3.3	0.69	0.84	0.69	52.5
Approach		68	0.0	0.112	9.4	LOS A	0.5	3.3	0.69	0.84	0.69	46.3
All Vehicles		4307	1.1	2.532	452.7	LOS F	478.3	3368.4	0.86	4.08	7.87	6.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street PM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - PM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	1242	2.2	0.430	5.1	LOS A	1.2	8.8	0.04	0.57	0.04	50.5
2	T1	286	3.7	0.784	52.8	LOS D	16.4	118.5	0.99	0.89	1.07	19.3
Approach		1528	2.5	0.784	14.1	LOS A	16.4	118.5	0.22	0.63	0.23	41.6
North: Mann Street (N)												
8	T1	668	2.8	0.910	63.9	LOS E	22.1	158.5	1.00	1.09	1.30	15.4
Approach		668	2.8	0.910	63.9	LOS E	22.1	158.5	1.00	1.09	1.30	15.4
NorthWest: Central Coast Hwy (NW)												
27b	L3	16	0.0	0.950	29.9	LOS C	54.8	386.6	0.53	0.83	0.87	37.2
29a	R1	2537	0.9	0.950	27.8	LOS B	58.8	414.9	0.56	0.84	0.80	33.8
Approach		2553	0.9	0.950	27.8	LOS B	58.8	414.9	0.56	0.84	0.81	33.8
All Vehicles		4749	1.7	0.950	28.5	LOS B	58.8	414.9	0.51	0.81	0.69	31.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
P3	North Full Crossing	50	7.4	LOS A	0.1	0.1	0.35	0.35	
P7	NorthWest Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
All Pedestrians		150	36.8	LOS D			0.73	0.73	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv AM]

Georgiana Tce and Dane Dr
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	454	1.2	0.632	7.2	LOS A	8.4	59.2	0.66	0.57	1.03	24.4
3	R2	485	0.6	0.632	9.1	LOS A	8.4	59.2	0.66	0.57	1.03	32.5
Approach		939	0.9	0.632	8.2	NA	8.4	59.2	0.66	0.57	1.03	28.1
East: Georgiana Tce (E)												
4	L2	289	0.9	0.537	8.3	LOS A	3.7	25.9	0.60	0.94	1.01	27.7
6	R2	40	0.0	0.537	36.0	LOS C	3.7	25.9	0.60	0.94	1.01	25.7
Approach		329	0.8	0.537	11.6	LOS A	3.7	25.9	0.60	0.94	1.01	27.3
North: Dane Drive (N)												
7	L2	45	2.3	0.198	1.1	LOS A	0.0	0.0	0.00	0.02	0.00	25.8
8	T1	333	2.5	0.198	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	24.9
Approach		378	2.5	0.198	0.1	NA	0.0	0.0	0.00	0.02	0.00	25.1
All Vehicles		1646	1.2	0.632	7.0	NA	8.4	59.2	0.50	0.52	0.79	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St AM]

Georgiana Tce and Baker Street
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	154	1.1	0.546	10.3	LOS A	6.0	42.3	0.73	0.35	1.17	25.7
5	T1	304	0.7	0.546	6.0	LOS A	6.0	42.3	0.73	0.35	1.17	27.3
6	R2	200	0.5	0.546	11.5	LOS A	6.0	42.3	0.73	0.35	1.17	30.0
Approach		658	0.7	0.546	8.7	NA	6.0	42.3	0.73	0.35	1.17	28.0
North: Baker Street (N)												
7	L2	72	0.0	0.318	8.5	LOS A	1.3	8.8	0.71	0.91	0.87	26.1
8	T1	9	0.0	0.318	15.5	LOS B	1.3	8.8	0.71	0.91	0.87	25.3
9	R2	23	0.0	0.318	36.1	LOS C	1.3	8.8	0.71	0.91	0.87	26.0
Approach		104	0.0	0.318	15.2	LOS B	1.3	8.8	0.71	0.91	0.87	26.0
West: Georgiana Terrace (W)												
10	L2	251	1.3	0.339	3.4	LOS A	0.0	0.3	0.01	0.18	0.01	38.6
11	T1	391	0.3	0.339	0.0	LOS A	0.0	0.3	0.01	0.18	0.01	37.3
12	R2	2	5.0	0.339	6.7	LOS A	0.0	0.3	0.01	0.18	0.01	35.3
Approach		644	0.7	0.339	1.4	NA	0.0	0.3	0.01	0.18	0.01	37.9
All Vehicles		1406	0.7	0.546	5.8	NA	6.0	42.3	0.40	0.31	0.62	31.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 3 [3 Georgiana Tce and Mann St AM]

Mann St and Georgiana Tce
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	482	1.1	0.860	5.2	LOS A	17.2	124.2	0.95	0.55	0.95	30.6
2	T1	599	5.9	0.860	4.9	LOS A	17.2	124.2	0.95	0.55	0.95	33.8
3	R2	13	0.0	0.860	7.5	LOS A	17.2	124.2	0.95	0.55	0.95	31.2
Approach		1094	3.7	0.860	5.1	LOS A	17.2	124.2	0.95	0.55	0.95	32.6
East: Georgiana Terrace (E)												
4	L2	5	0.0	0.021	6.8	LOS A	0.1	0.9	0.66	0.60	0.66	30.1
5	T1	7	0.0	0.021	6.3	LOS A	0.1	0.9	0.66	0.60	0.66	29.1
6	R2	3	0.0	0.021	9.1	LOS A	0.1	0.9	0.66	0.60	0.66	32.2
Approach		15	0.0	0.021	7.0	LOS A	0.1	0.9	0.66	0.60	0.66	30.2
North: Mann Street (N)												
7	L2	15	0.0	0.404	4.7	LOS A	3.3	24.7	0.59	0.57	0.59	32.7
8	T1	297	10.7	0.404	4.5	LOS A	3.3	24.7	0.59	0.57	0.59	34.7
9	R2	89	0.0	0.404	7.0	LOS A	3.3	24.7	0.59	0.57	0.59	33.7
Approach		401	7.9	0.404	5.1	LOS A	3.3	24.7	0.59	0.57	0.59	34.5
West: Georgiana Terrace (W)												
10	L2	111	0.0	0.457	9.1	LOS A	3.6	25.0	0.88	0.94	0.95	29.1
11	T1	37	0.0	0.457	8.5	LOS A	3.6	25.0	0.88	0.94	0.95	25.7
12	R2	134	0.7	0.457	11.3	LOS A	3.6	25.0	0.88	0.94	0.95	28.3
Approach		282	0.3	0.457	10.0	LOS A	3.6	25.0	0.88	0.94	0.95	28.4
All Vehicles		1792	4.1	0.860	5.9	LOS A	17.2	124.2	0.85	0.62	0.86	32.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave AM]

Mann St and Vaughan Ave
2022 Base - AM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	15	3.3	0.591	4.6	LOS A	0.2	1.5	0.01	0.01	0.01	41.0
2	T1	1104	3.4	0.591	0.0	LOS A	0.2	1.5	0.01	0.01	0.01	39.9
Approach		1119	3.4	0.591	0.1	NA	0.2	1.5	0.01	0.01	0.01	39.9
North: Mann Street (N)												
8	T1	446	7.3	0.286	2.3	LOS A	1.1	7.9	0.15	0.01	0.18	37.3
9a	R1	12	10.0	0.286	22.7	LOS B	1.1	7.9	0.15	0.01	0.18	36.6
Approach		458	7.4	0.286	2.8	NA	1.1	7.9	0.15	0.01	0.18	37.3
SouthWest: Vaughan Avenue (SW)												
30a	L1	44	14.3	0.188	18.9	LOS B	0.6	4.7	0.87	0.95	0.91	23.1
32b	R3	3	0.0	0.031	34.9	LOS C	0.1	0.6	0.92	0.97	0.92	20.5
Approach		47	13.3	0.188	20.0	LOS B	0.6	4.7	0.87	0.95	0.91	22.8
All Vehicles		1624	4.8	0.591	1.4	NA	1.1	7.9	0.07	0.04	0.08	38.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv AM]

Central Coast Hwy and Dane Drv
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	15	0.0	1.112	217.6	LOS F	211.8	1516.3	1.00	5.15	8.64	13.0
22	T1	1960	2.7	1.112	218.3	LOS F	211.8	1516.3	1.00	5.07	8.61	13.1
23	R2	616	1.0	1.112	225.1	LOS F	187.7	1335.0	1.00	4.87	8.52	8.2
Approach		2591	2.3	1.112	219.9	LOS F	211.8	1516.3	1.00	5.02	8.59	12.0
NorthEast: Dane Drive (NE)												
24	L2	319	2.3	1.321	598.9	LOS F	200.8	1427.1	1.00	12.08	23.49	3.3
25	T1	12	0.0	1.321	600.6	LOS F	200.8	1427.1	1.00	12.08	23.49	3.4
26	R2	289	1.2	1.321	601.2	LOS F	200.8	1427.1	1.00	12.08	23.49	3.4
Approach		620	1.8	1.321	600.0	LOS F	200.8	1427.1	1.00	12.08	23.49	3.4
NorthWest: Central Coast Hwy (NW)												
27	L2	322	0.6	1.135	270.1	LOS F	170.1	1221.1	1.00	6.18	12.78	6.7
28	T1	1411	4.2	1.135	272.7	LOS F	170.1	1221.1	1.00	5.92	12.41	10.9
29	R2	10	0.0	1.135	278.3	LOS F	142.8	1034.5	1.00	5.70	12.12	11.0
Approach		1743	3.5	1.135	272.2	LOS F	170.1	1221.1	1.00	5.96	12.48	10.1
SouthWest: Dane Drive (SW)												
30	L2	3	0.0	0.040	16.2	LOS B	0.2	1.5	0.91	0.91	0.91	47.0
31	T1	5	0.0	0.040	16.7	LOS B	0.2	1.5	0.91	0.91	0.91	29.1
32	R2	1	0.0	0.040	21.5	LOS B	0.2	1.5	0.91	0.91	0.91	47.3
Approach		9	0.0	0.040	17.1	LOS B	0.2	1.5	0.91	0.91	0.91	37.3
All Vehicles		4963	2.6	1.321	285.4	LOS F	211.8	1516.3	1.00	6.23	11.80	9.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street AM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - AM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	2648	2.2	0.917	13.2	LOS A	23.4	166.8	0.22	0.66	0.27	42.8
2	T1	654	4.0	0.898	44.0	LOS D	39.7	287.2	0.97	0.99	1.12	21.7
Approach		3302	2.5	0.917	19.3	LOS B	39.7	287.2	0.37	0.73	0.44	37.7
North: Mann Street (N)												
8	T1	371	8.0	0.261	24.6	LOS B	6.1	45.4	0.60	0.50	0.60	25.7
Approach		371	8.0	0.261	24.6	LOS B	6.1	45.4	0.60	0.50	0.60	25.7
NorthWest: Central Coast Hwy (NW)												
27b	L3	34	12.5	0.914	44.7	LOS D	51.0	368.7	0.91	0.97	1.40	30.3
29a	R1	1723	3.4	0.914	39.9	LOS C	51.5	371.2	0.91	0.96	1.22	28.6
Approach		1757	3.6	0.914	40.0	LOS C	51.5	371.2	0.91	0.96	1.22	28.6
All Vehicles		5430	3.3	0.917	26.4	LOS B	51.5	371.2	0.56	0.79	0.70	33.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
P3	North Full Crossing	50	17.6	LOS B	0.1	0.1	0.54	0.54	
P7	NorthWest Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
All Pedestrians		150	40.2	LOS E			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv PM]

Georgiana Tce and Dane Dr
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	256	1.7	0.449	3.8	LOS A	3.8	26.9	0.65	0.52	0.90	43.3
3	R2	311	0.0	0.449	9.2	LOS A	3.8	26.9	0.65	0.52	0.90	34.1
Approach		567	0.7	0.449	6.7	NA	3.8	26.9	0.65	0.52	0.90	37.6
East: Georgiana Tce (E)												
4	L2	315	0.3	0.437	6.8	LOS A	2.6	18.4	0.58	0.84	0.79	30.6
6	R2	35	0.0	0.437	17.3	LOS B	2.6	18.4	0.58	0.84	0.79	36.2
Approach		350	0.3	0.437	7.9	LOS A	2.6	18.4	0.58	0.84	0.79	31.3
North: Dane Drive (N)												
7	L2	173	0.0	0.296	5.6	LOS A	0.0	0.0	0.00	0.18	0.00	52.9
8	T1	392	1.1	0.296	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	54.6
Approach		565	0.8	0.296	1.7	NA	0.0	0.0	0.00	0.18	0.00	53.9
All Vehicles		1482	0.6	0.449	5.1	NA	3.8	26.9	0.39	0.47	0.53	40.7

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St PM]

Georgiana Tce and Baker Street
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	45	0.0	0.441	7.7	LOS A	3.7	25.9	0.54	0.32	0.74	30.1
5	T1	331	0.0	0.441	3.2	LOS A	3.7	25.9	0.54	0.32	0.74	31.0
6	R2	205	0.0	0.441	8.0	LOS A	3.7	25.9	0.54	0.32	0.74	33.1
Approach		581	0.0	0.441	5.2	NA	3.7	25.9	0.54	0.32	0.74	31.9
North: Baker Street (N)												
7	L2	231	0.0	0.668	13.7	LOS A	5.1	35.8	0.72	1.26	1.58	23.8
8	T1	4	0.0	0.668	19.5	LOS B	5.1	35.8	0.72	1.26	1.58	23.0
9	R2	49	2.2	0.668	45.6	LOS D	5.1	35.8	0.72	1.26	1.58	23.7
Approach		284	0.4	0.668	19.3	LOS B	5.1	35.8	0.72	1.26	1.58	23.8
West: Georgiana Terrace (W)												
10	L2	122	0.0	0.253	3.4	LOS A	0.0	0.1	0.00	0.12	0.00	39.3
11	T1	363	0.0	0.253	0.0	LOS A	0.0	0.1	0.00	0.12	0.00	38.2
12	R2	1	0.0	0.253	5.6	LOS A	0.0	0.1	0.00	0.12	0.00	36.5
Approach		486	0.0	0.253	0.9	NA	0.0	0.1	0.00	0.12	0.00	38.5
All Vehicles		1351	0.1	0.668	6.6	NA	5.1	35.8	0.39	0.45	0.65	30.9

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 3 [3 Georgiana Tce and Mann St PM]

Mann St and Georgiana Tce
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	236	0.0	0.488	3.9	LOS A	4.6	32.0	0.44	0.45	0.44	33.8
2	T1	369	0.0	0.488	3.5	LOS A	4.6	32.0	0.44	0.45	0.44	35.7
3	R2	12	0.0	0.488	6.2	LOS A	4.6	32.0	0.44	0.45	0.44	32.1
Approach		617	0.0	0.488	3.7	LOS A	4.6	32.0	0.44	0.45	0.44	35.0
East: Georgiana Terrace (E)												
4	L2	26	0.0	0.150	11.2	LOS A	1.0	6.7	0.82	0.83	0.82	27.3
5	T1	30	0.0	0.150	10.9	LOS A	1.0	6.7	0.82	0.83	0.82	26.3
6	R2	23	0.0	0.150	13.7	LOS A	1.0	6.7	0.82	0.83	0.82	29.5
Approach		79	0.0	0.150	11.8	LOS A	1.0	6.7	0.82	0.83	0.82	27.7
North: Mann Street (N)												
7	L2	13	0.0	0.565	8.3	LOS A	5.4	37.8	0.84	0.84	0.93	30.9
8	T1	402	0.0	0.565	7.8	LOS A	5.4	37.8	0.84	0.84	0.93	32.7
9	R2	39	0.0	0.565	10.6	LOS A	5.4	37.8	0.84	0.84	0.93	31.8
Approach		454	0.0	0.565	8.0	LOS A	5.4	37.8	0.84	0.84	0.93	32.6
West: Georgiana Terrace (W)												
10	L2	158	0.0	0.609	9.5	LOS A	5.7	40.1	0.80	0.88	0.93	29.8
11	T1	11	0.0	0.609	9.1	LOS A	5.7	40.1	0.80	0.88	0.93	27.2
12	R2	355	0.0	0.609	11.9	LOS A	5.7	40.1	0.80	0.88	0.93	29.2
Approach		524	0.0	0.609	11.1	LOS A	5.7	40.1	0.80	0.88	0.93	29.4
All Vehicles		1674	0.0	0.609	7.6	LOS A	5.7	40.1	0.68	0.71	0.75	32.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave PM]

Mann St and Vaughan Ave
2022 Base - PM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	3	0.0	0.276	4.4	LOS A	0.0	0.2	0.00	0.00	0.00	41.1
2	T1	523	2.8	0.276	0.0	LOS A	0.0	0.2	0.00	0.00	0.00	40.0
Approach		526	2.8	0.276	0.0	NA	0.0	0.2	0.00	0.00	0.00	40.0
North: Mann Street (N)												
8	T1	843	2.7	0.448	0.1	LOS A	0.2	1.3	0.02	0.00	0.03	39.8
9a	R1	7	0.0	0.448	7.1	LOS A	0.2	1.3	0.02	0.00	0.03	40.4
Approach		851	2.7	0.448	0.2	NA	0.2	1.3	0.02	0.00	0.03	39.8
SouthWest: Vaughan Avenue (SW)												
30a	L1	101	4.3	0.117	6.2	LOS A	0.4	3.2	0.53	0.71	0.53	32.0
32b	R3	7	0.0	0.039	20.6	LOS B	0.1	0.8	0.86	0.94	0.86	25.5
Approach		108	4.1	0.117	7.1	LOS A	0.4	3.2	0.56	0.72	0.56	31.3
All Vehicles		1485	2.8	0.448	0.6	NA	0.4	3.2	0.05	0.06	0.06	39.3

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv PM]

Central Coast Hwy and Dane Drv
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	16	0.0	0.576	5.3	LOS A	6.6	47.2	0.57	0.48	0.57	52.3
22	T1	1221	2.2	0.576	5.0	LOS A	6.6	47.2	0.58	0.51	0.58	53.9
23	R2	295	1.8	0.576	10.0	LOS A	6.5	45.9	0.60	0.56	0.60	45.7
Approach		1532	2.1	0.576	6.0	LOS A	6.6	47.2	0.58	0.52	0.58	52.7
NorthEast: Dane Drive (NE)												
24	L2	381	1.1	2.713	3098.6	LOS F	564.1	3973.9	1.00	17.63	37.99	0.7
25	T1	11	0.0	2.713	3100.4	LOS F	564.1	3973.9	1.00	17.63	37.99	0.7
26	R2	303	0.3	2.713	3102.3	LOS F	564.1	3973.9	1.00	17.63	37.99	0.7
Approach		695	0.7	2.713	3100.2	LOS F	564.1	3973.9	1.00	17.63	37.99	0.7
NorthWest: Central Coast Hwy (NW)												
27	L2	264	0.0	1.327	601.0	LOS F	498.4	3509.8	1.00	12.26	23.63	3.3
28	T1	2567	0.9	1.327	602.2	LOS F	498.4	3509.8	1.00	11.78	23.14	5.5
29	R2	8	0.0	1.327	607.3	LOS F	427.4	3013.7	1.00	11.30	22.66	5.6
Approach		2839	0.8	1.327	602.1	LOS F	498.4	3509.8	1.00	11.82	23.18	5.3
SouthWest: Dane Drive (SW)												
30	L2	25	0.0	0.158	8.0	LOS A	0.7	5.0	0.75	0.88	0.75	51.5
31	T1	26	0.0	0.158	8.5	LOS A	0.7	5.0	0.75	0.88	0.75	32.2
32	R2	33	0.0	0.158	13.3	LOS A	0.7	5.0	0.75	0.88	0.75	52.0
Approach		84	0.0	0.158	10.3	LOS A	0.7	5.0	0.75	0.88	0.75	45.8
All Vehicles		5150	1.1	2.713	752.3	LOS F	564.1	3973.9	0.87	9.06	18.09	4.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street PM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - PM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	1514	2.2	0.524	5.2	LOS A	1.8	12.7	0.04	0.57	0.04	50.5
2	T1	312	3.7	0.937	71.3	LOS F	21.9	158.5	1.00	1.11	1.41	15.6
Approach		1826	2.4	0.937	16.5	LOS B	21.9	158.5	0.21	0.66	0.28	39.8
North: Mann Street (N)												
8	T1	747	2.8	1.114	274.1	LOS F	57.8	413.9	1.00	2.36	2.90	4.8
Approach		747	2.8	1.114	274.1	LOS F	57.8	413.9	1.00	2.36	2.90	4.8
NorthWest: Central Coast Hwy (NW)												
27b	L3	20	0.0	1.120	252.9	LOS F	234.5	1654.5	1.00	1.63	2.77	9.1
29a	R1	3062	0.9	1.120	251.4	LOS F	253.9	1791.1	1.00	1.71	2.77	7.8
Approach		3082	0.9	1.120	251.4	LOS F	253.9	1791.1	1.00	1.71	2.77	7.8
All Vehicles		5655	1.7	1.120	178.6	LOS F	253.9	1791.1	0.74	1.46	1.98	9.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
P3	North Full Crossing	50	6.7	LOS A	0.1	0.1	0.33	0.33	
P7	NorthWest Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
All Pedestrians		150	36.5	LOS D			0.73	0.73	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv AM]

Georgiana Tce and Dane Dr
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	454	1.2	0.642	7.3	LOS A	8.7	61.7	0.67	0.57	1.06	24.3
3	R2	497	0.6	0.642	9.2	LOS A	8.7	61.7	0.67	0.57	1.06	32.4
Approach		951	0.9	0.642	8.3	NA	8.7	61.7	0.67	0.57	1.06	28.0
East: Georgiana Tce (E)												
4	L2	309	0.9	0.566	8.7	LOS A	4.1	29.1	0.61	0.97	1.08	27.4
6	R2	40	0.0	0.566	38.1	LOS C	4.1	29.1	0.61	0.97	1.08	25.5
Approach		349	0.8	0.566	12.1	LOS A	4.1	29.1	0.61	0.97	1.08	27.1
North: Dane Drive (N)												
7	L2	45	2.3	0.198	1.1	LOS A	0.0	0.0	0.00	0.02	0.00	25.8
8	T1	333	2.5	0.198	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	24.9
Approach		378	2.5	0.198	0.1	NA	0.0	0.0	0.00	0.02	0.00	25.1
All Vehicles		1678	1.2	0.642	7.3	NA	8.7	61.7	0.51	0.53	0.82	27.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St AM]

Georgiana Tce and Baker Street
2022 Base - AM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	182	1.1	0.571	10.4	LOS A	6.6	46.6	0.74	0.34	1.22	25.5
5	T1	323	0.7	0.571	6.2	LOS A	6.6	46.6	0.74	0.34	1.22	27.1
6	R2	200	0.5	0.571	11.9	LOS A	6.6	46.6	0.74	0.34	1.22	29.9
Approach		705	0.7	0.571	8.9	NA	6.6	46.6	0.74	0.34	1.22	27.7
North: Baker Street (N)												
7	L2	72	0.0	0.336	8.8	LOS A	1.3	9.4	0.72	0.93	0.90	25.4
8	T1	9	0.0	0.336	17.5	LOS B	1.3	9.4	0.72	0.93	0.90	24.6
9	R2	23	0.0	0.336	39.1	LOS C	1.3	9.4	0.72	0.93	0.90	25.4
Approach		104	0.0	0.336	16.3	LOS B	1.3	9.4	0.72	0.93	0.90	25.3
West: Georgiana Terrace (W)												
10	L2	251	1.3	0.351	3.7	LOS A	0.3	2.4	0.06	0.18	0.07	38.2
11	T1	391	0.3	0.351	0.2	LOS A	0.3	2.4	0.06	0.18	0.07	36.7
12	R2	14	5.0	0.351	7.2	LOS A	0.3	2.4	0.06	0.18	0.07	34.7
Approach		656	0.7	0.351	1.7	NA	0.3	2.4	0.06	0.18	0.07	37.4
All Vehicles		1465	0.7	0.571	6.2	NA	6.6	46.6	0.43	0.31	0.68	31.2

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

 Site: ☐ [☐ Georgiana Tce and Mann St AM]

Mann St and Georgiana Tce
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	521	1.1	0.912	5.9	LOS A	21.3	153.7	1.00	0.58	1.00	30.4
2	T1	612	5.9	0.912	5.6	LOS A	21.3	153.7	1.00	0.58	1.00	33.6
3	R2	13	0.0	0.912	8.1	LOS A	21.3	153.7	1.00	0.58	1.00	30.9
Approach		1146	3.7	0.912	5.7	LOS A	21.3	153.7	1.00	0.58	1.00	32.3
East: Georgiana Terrace (E)												
4	L2	5	0.0	0.021	6.8	LOS A	0.1	0.9	0.66	0.60	0.66	30.0
5	T1	7	0.0	0.021	6.4	LOS A	0.1	0.9	0.66	0.60	0.66	29.0
6	R2	3	0.0	0.021	9.1	LOS A	0.1	0.9	0.66	0.60	0.66	32.1
Approach		15	0.0	0.021	7.1	LOS A	0.1	0.9	0.66	0.60	0.66	30.1
North: Mann Street (N)												
7	L2	15	0.0	0.412	4.7	LOS A	3.4	25.4	0.60	0.58	0.60	32.7
8	T1	297	10.7	0.412	4.5	LOS A	3.4	25.4	0.60	0.58	0.60	34.7
9	R2	97	0.0	0.412	7.0	LOS A	3.4	25.4	0.60	0.58	0.60	33.7
Approach		409	7.8	0.412	5.1	LOS A	3.4	25.4	0.60	0.58	0.60	34.4
West: Georgiana Terrace (W)												
10	L2	111	0.0	0.471	9.5	LOS A	3.8	26.5	0.90	0.97	0.99	28.8
11	T1	37	0.0	0.471	8.9	LOS A	3.8	26.5	0.90	0.97	0.99	25.4
12	R2	134	0.7	0.471	11.7	LOS A	3.8	26.5	0.90	0.97	0.99	28.0
Approach		282	0.3	0.471	10.4	LOS A	3.8	26.5	0.90	0.97	0.99	28.1
All Vehicles		1852	4.0	0.912	6.3	LOS A	21.3	153.7	0.89	0.64	0.91	32.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave AM]

Mann St and Vaughan Ave
2022 Base - AM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	15	3.3	0.602	4.6	LOS A	0.2	1.5	0.01	0.01	0.01	41.0
2	T1	1124	3.4	0.602	0.0	LOS A	0.2	1.5	0.01	0.01	0.01	39.9
Approach		1139	3.4	0.602	0.1	NA	0.2	1.5	0.01	0.01	0.01	39.9
North: Mann Street (N)												
8	T1	446	7.3	0.289	2.5	LOS A	1.2	8.7	0.15	0.01	0.19	37.0
9a	R1	12	10.0	0.289	24.0	LOS B	1.2	8.7	0.15	0.01	0.19	36.2
Approach		458	7.4	0.289	3.1	NA	1.2	8.7	0.15	0.01	0.19	37.0
SouthWest: Vaughan Avenue (SW)												
30a	L1	78	14.3	0.353	22.9	LOS B	1.2	9.5	0.90	1.01	1.08	21.2
32b	R3	37	0.0	0.388	47.4	LOS D	1.1	7.7	0.95	1.03	1.11	17.4
Approach		115	9.7	0.388	30.8	LOS C	1.2	9.5	0.92	1.02	1.09	19.6
All Vehicles		1712	4.9	0.602	2.9	NA	1.2	9.5	0.11	0.08	0.13	37.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv AM]

Central Coast Hwy and Dane Drv
2022 Base - AM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	15	0.0	1.124	239.2	LOS F	227.4	1628.3	1.00	5.60	9.52	12.1
22	T1	1960	2.7	1.124	239.8	LOS F	227.4	1628.3	1.00	5.51	9.47	12.2
23	R2	616	1.0	1.124	246.6	LOS F	201.0	1429.3	1.00	5.31	9.35	7.6
Approach		2591	2.3	1.124	241.4	LOS F	227.4	1628.3	1.00	5.46	9.44	11.1
NorthEast: Dane Drive (NE)												
24	L2	319	2.3	1.344	639.4	LOS F	217.0	1542.0	1.00	12.72	24.67	3.1
25	T1	12	0.0	1.344	641.2	LOS F	217.0	1542.0	1.00	12.72	24.67	3.2
26	R2	308	1.2	1.344	641.7	LOS F	217.0	1542.0	1.00	12.72	24.67	3.2
Approach		639	1.7	1.344	640.5	LOS F	217.0	1542.0	1.00	12.72	24.67	3.2
NorthWest: Central Coast Hwy (NW)												
27	L2	333	0.6	1.136	272.3	LOS F	172.3	1236.3	1.00	6.24	12.88	6.7
28	T1	1411	4.2	1.136	274.9	LOS F	172.3	1236.3	1.00	5.97	12.51	10.8
29	R2	10	0.0	1.136	280.4	LOS F	144.6	1047.5	1.00	5.75	12.21	10.9
Approach		1754	3.5	1.136	274.4	LOS F	172.3	1236.3	1.00	6.02	12.58	10.0
SouthWest: Dane Drive (SW)												
30	L2	3	0.0	0.040	16.1	LOS B	0.2	1.5	0.91	0.91	0.91	47.0
31	T1	5	0.0	0.040	16.6	LOS B	0.2	1.5	0.91	0.91	0.91	29.2
32	R2	1	0.0	0.040	21.4	LOS B	0.2	1.5	0.91	0.91	0.91	47.4
Approach		9	0.0	0.040	17.0	LOS B	0.2	1.5	0.91	0.91	0.91	37.4
All Vehicles		4993	2.6	1.344	303.7	LOS F	227.4	1628.3	1.00	6.58	12.48	8.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street AM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - AM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	2648	2.2	0.917	13.2	LOS A	23.4	166.8	0.22	0.66	0.27	42.8
2	T1	673	4.0	0.924	50.1	LOS D	44.2	320.2	1.00	1.06	1.21	20.0
Approach		3321	2.5	0.924	20.7	LOS B	44.2	320.2	0.37	0.75	0.46	36.8
North: Mann Street (N)												
8	T1	403	8.0	0.284	24.9	LOS B	6.7	50.0	0.61	0.51	0.61	25.5
Approach		403	8.0	0.284	24.9	LOS B	6.7	50.0	0.61	0.51	0.61	25.5
NorthWest: Central Coast Hwy (NW)												
27b	L3	34	12.5	0.914	45.1	LOS D	51.0	368.7	0.91	0.97	1.42	30.2
29a	R1	1723	3.4	0.914	40.2	LOS C	51.5	371.2	0.91	0.96	1.23	28.5
Approach		1757	3.6	0.914	40.3	LOS C	51.5	371.2	0.91	0.96	1.23	28.5
All Vehicles		5481	3.3	0.924	27.3	LOS B	51.5	371.2	0.56	0.80	0.72	32.8

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
P3	North Full Crossing	50	17.6	LOS B	0.1	0.1	0.54	0.54	
P7	NorthWest Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
All Pedestrians		150	40.2	LOS E			0.80	0.80	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

MOVEMENT SUMMARY

▽ Site: 1 [1 Georgiana Tce and Dane Drv PM]

Georgiana Tce and Dane Dr
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Dane Drive (S)												
2	T1	256	1.7	0.461	3.9	LOS A	4.0	28.2	0.66	0.54	0.93	43.0
3	R2	323	0.0	0.461	9.2	LOS A	4.0	28.2	0.66	0.54	0.93	33.9
Approach		579	0.7	0.461	6.9	NA	4.0	28.2	0.66	0.54	0.93	37.3
East: Georgiana Tce (E)												
4	L2	325	0.3	0.450	7.0	LOS A	2.8	19.5	0.59	0.85	0.81	30.5
6	R2	35	0.0	0.450	17.9	LOS B	2.8	19.5	0.59	0.85	0.81	36.0
Approach		360	0.3	0.450	8.0	LOS A	2.8	19.5	0.59	0.85	0.81	31.2
North: Dane Drive (N)												
7	L2	173	0.0	0.296	5.6	LOS A	0.0	0.0	0.00	0.18	0.00	52.9
8	T1	392	1.1	0.296	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	54.6
Approach		565	0.8	0.296	1.7	NA	0.0	0.0	0.00	0.18	0.00	53.9
All Vehicles		1504	0.6	0.461	5.2	NA	4.0	28.2	0.39	0.48	0.55	40.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 2 [2 Georgiana Tce and Baker St PM]

Georgiana Tce and Baker Street
2022 Base - PM Peak
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Georgiana Terrace (E)												
4	L2	74	0.0	0.462	7.7	LOS A	4.1	28.6	0.55	0.32	0.77	29.8
5	T1	341	0.0	0.462	3.3	LOS A	4.1	28.6	0.55	0.32	0.77	30.8
6	R2	205	0.0	0.462	8.2	LOS A	4.1	28.6	0.55	0.32	0.77	33.0
Approach		620	0.0	0.462	5.4	NA	4.1	28.6	0.55	0.32	0.77	31.6
North: Baker Street (N)												
7	L2	231	0.0	0.689	14.8	LOS B	5.4	38.2	0.73	1.30	1.67	23.1
8	T1	4	0.0	0.689	21.8	LOS B	5.4	38.2	0.73	1.30	1.67	22.2
9	R2	49	2.2	0.689	48.8	LOS D	5.4	38.2	0.73	1.30	1.67	23.0
Approach		284	0.4	0.689	20.7	LOS B	5.4	38.2	0.73	1.30	1.67	23.1
West: Georgiana Terrace (W)												
10	L2	122	0.0	0.263	3.7	LOS A	0.2	1.4	0.05	0.12	0.05	38.9
11	T1	363	0.0	0.263	0.1	LOS A	0.2	1.4	0.05	0.12	0.05	37.6
12	R2	13	0.0	0.263	5.9	LOS A	0.2	1.4	0.05	0.12	0.05	35.9
Approach		498	0.0	0.263	1.1	NA	0.2	1.4	0.05	0.12	0.05	38.0
All Vehicles		1402	0.1	0.689	7.0	NA	5.4	38.2	0.41	0.45	0.70	30.4

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 3 [3 Georgiana Tce and Mann St PM]

Mann St and Georgiana Tce
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1	L2	266	0.0	0.524	4.1	LOS A	5.1	35.5	0.48	0.47	0.48	33.6
2	T1	376	0.0	0.524	3.6	LOS A	5.1	35.5	0.48	0.47	0.48	35.6
3	R2	12	0.0	0.524	6.4	LOS A	5.1	35.5	0.48	0.47	0.48	31.9
Approach		654	0.0	0.524	3.9	LOS A	5.1	35.5	0.48	0.47	0.48	34.8
East: Georgiana Terrace (E)												
4	L2	26	0.0	0.152	11.3	LOS A	1.0	6.8	0.82	0.84	0.82	27.2
5	T1	30	0.0	0.152	11.0	LOS A	1.0	6.8	0.82	0.84	0.82	26.2
6	R2	23	0.0	0.152	13.8	LOS A	1.0	6.8	0.82	0.84	0.82	29.4
Approach		79	0.0	0.152	11.9	LOS A	1.0	6.8	0.82	0.84	0.82	27.6
North: Mann Street (N)												
7	L2	13	0.0	0.577	8.4	LOS A	5.6	39.5	0.85	0.86	0.95	30.7
8	T1	402	0.0	0.577	8.0	LOS A	5.6	39.5	0.85	0.86	0.95	32.6
9	R2	48	0.0	0.577	10.7	LOS A	5.6	39.5	0.85	0.86	0.95	31.6
Approach		463	0.0	0.577	8.3	LOS A	5.6	39.5	0.85	0.86	0.95	32.4
West: Georgiana Terrace (W)												
10	L2	158	0.0	0.616	9.7	LOS A	5.9	41.3	0.81	0.90	0.95	29.7
11	T1	11	0.0	0.616	9.3	LOS A	5.9	41.3	0.81	0.90	0.95	27.0
12	R2	355	0.0	0.616	12.1	LOS A	5.9	41.3	0.81	0.90	0.95	29.0
Approach		524	0.0	0.616	11.3	LOS A	5.9	41.3	0.81	0.90	0.95	29.2
All Vehicles		1720	0.0	0.616	7.7	LOS A	5.9	41.3	0.69	0.72	0.77	32.1

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

▽ Site: 4 [4 Mann St and Vaughan Ave PM]

Mann St and Vaughan Ave
2022 Base - PM Peak
Site Category: (None)
Giveaway / Yield (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1b	L3	3	0.0	0.287	4.4	LOS A	0.0	0.2	0.00	0.00	0.00	41.1
2	T1	544	2.8	0.287	0.0	LOS A	0.0	0.2	0.00	0.00	0.00	40.0
Approach		547	2.8	0.287	0.0	NA	0.0	0.2	0.00	0.00	0.00	40.0
North: Mann Street (N)												
8	T1	843	2.7	0.448	0.1	LOS A	0.2	1.3	0.02	0.00	0.03	39.8
9a	R1	7	0.0	0.448	7.4	LOS A	0.2	1.3	0.02	0.00	0.03	40.3
Approach		851	2.7	0.448	0.2	NA	0.2	1.3	0.02	0.00	0.03	39.8
SouthWest: Vaughan Avenue (SW)												
30a	L1	118	4.3	0.140	6.4	LOS A	0.5	3.9	0.55	0.73	0.55	31.8
32b	R3	24	0.0	0.132	21.9	LOS B	0.4	2.6	0.87	0.94	0.87	24.9
Approach		142	3.6	0.140	9.0	LOS A	0.5	3.9	0.60	0.77	0.60	30.0
All Vehicles		1540	2.8	0.448	0.9	NA	0.5	3.9	0.07	0.07	0.07	39.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on average delay per movement.

Minor Road Approach LOS values are based on average delay for all vehicle movements.

NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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MOVEMENT SUMMARY

Site: 5 [5 Central Coast Hwy and Dane Drv PM]

Central Coast Hwy and Dane Drv
2022 Base - PM Peak
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
SouthEast: Central Coast Hwy (SE)												
21	L2	16	0.0	0.579	5.4	LOS A	6.6	47.4	0.58	0.48	0.58	52.2
22	T1	1221	2.2	0.579	5.1	LOS A	6.6	47.4	0.59	0.51	0.59	53.9
23	R2	295	1.8	0.579	10.0	LOS A	6.5	46.1	0.61	0.56	0.61	45.7
Approach		1532	2.1	0.579	6.0	LOS A	6.6	47.4	0.59	0.52	0.59	52.7
NorthEast: Dane Drive (NE)												
24	L2	381	1.1	2.731	3132.0	LOS F	574.3	4045.9	1.00	17.78	38.24	0.7
25	T1	11	0.0	2.731	3133.8	LOS F	574.3	4045.9	1.00	17.78	38.24	0.7
26	R2	313	0.3	2.731	3135.7	LOS F	574.3	4045.9	1.00	17.78	38.24	0.7
Approach		705	0.7	2.731	3133.6	LOS F	574.3	4045.9	1.00	17.78	38.24	0.7
NorthWest: Central Coast Hwy (NW)												
27	L2	276	0.0	1.333	611.8	LOS F	506.9	3569.9	1.00	12.41	23.92	3.3
28	T1	2567	0.9	1.333	613.1	LOS F	506.9	3569.9	1.00	11.92	23.42	5.4
29	R2	8	0.0	1.333	618.1	LOS F	434.6	3064.8	1.00	11.44	22.94	5.5
Approach		2851	0.8	1.333	613.0	LOS F	506.9	3569.9	1.00	11.96	23.47	5.2
SouthWest: Dane Drive (SW)												
30	L2	25	0.0	0.159	8.0	LOS A	0.7	5.0	0.75	0.89	0.75	51.4
31	T1	26	0.0	0.159	8.5	LOS A	0.7	5.0	0.75	0.89	0.75	32.2
32	R2	33	0.0	0.159	13.3	LOS A	0.7	5.0	0.75	0.89	0.75	51.9
Approach		84	0.0	0.159	10.3	LOS A	0.7	5.0	0.75	0.89	0.75	45.8
All Vehicles		5172	1.1	2.731	767.0	LOS F	574.3	4045.9	0.88	9.19	18.34	4.0

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Organisation: GTA CONSULTANTS | Processed: Friday, 5 March 2021 9:52:28 AM

Project: \\gta.com.au\projectfiles\ProjectFilesSyd\N13100-13199\N131975 32 Mann Street, Gosford - Northern Residential Tower\Modelling
v210305sid-N131975 26 Mann St 2033 Complete.sip8

MOVEMENT SUMMARY

Site: 6 [6 Central Coast Hwy and Mann Street PM]

Central Coast Hwy, Masons Parade and Mann Street

2022 Base - PM Peak

Site Category: (None)

Signals - Fixed Time Coordinated Cycle Time = 120 seconds (Site Optimum Cycle Time - Minimum Delay)

Variable Sequence Analysis applied. The results are given for the selected output sequence.

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Mann Street (S)												
1a	L1	1514	2.2	0.524	5.2	LOS A	1.8	12.7	0.04	0.57	0.04	50.5
2	T1	332	3.7	0.951	75.9	LOS F	24.4	176.1	1.00	1.16	1.47	14.9
Approach		1846	2.5	0.951	17.9	LOS B	24.4	176.1	0.22	0.68	0.30	38.7
North: Mann Street (N)												
8	T1	763	2.8	1.086	228.2	LOS F	52.6	377.2	1.00	2.13	2.61	5.6
Approach		763	2.8	1.086	228.2	LOS F	52.6	377.2	1.00	2.13	2.61	5.6
NorthWest: Central Coast Hwy (NW)												
27b	L3	20	0.0	1.133	274.9	LOS F	245.2	1730.0	1.00	1.68	2.92	8.5
29a	R1	3061	0.9	1.133	273.8	LOS F	265.3	1872.0	1.00	1.77	2.91	7.2
Approach		3081	0.9	1.133	273.8	LOS F	265.3	1872.0	1.00	1.77	2.91	7.2
All Vehicles		5690	1.7	1.133	184.7	LOS F	265.3	1872.0	0.75	1.46	2.03	9.5

Site Level of Service (LOS) Method: Delay (RTA NSW). Site LOS Method is specified in the Parameter Settings dialog (Site 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.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement Performance - Pedestrians									
Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Distance m	Prop. Queued	Effective Stop Rate	
P1S	South Slip/Bypass Lane Crossing	50	48.7	LOS E	0.2	0.2	0.90	0.90	
P3	North Full Crossing	50	7.0	LOS A	0.1	0.1	0.34	0.34	
P7	NorthWest Full Crossing	50	54.3	LOS E	0.2	0.2	0.95	0.95	
All Pedestrians		150	36.7	LOS D			0.73	0.73	

Level of Service (LOS) Method: SIDRA Pedestrian LOS Method (Based on Average Delay)

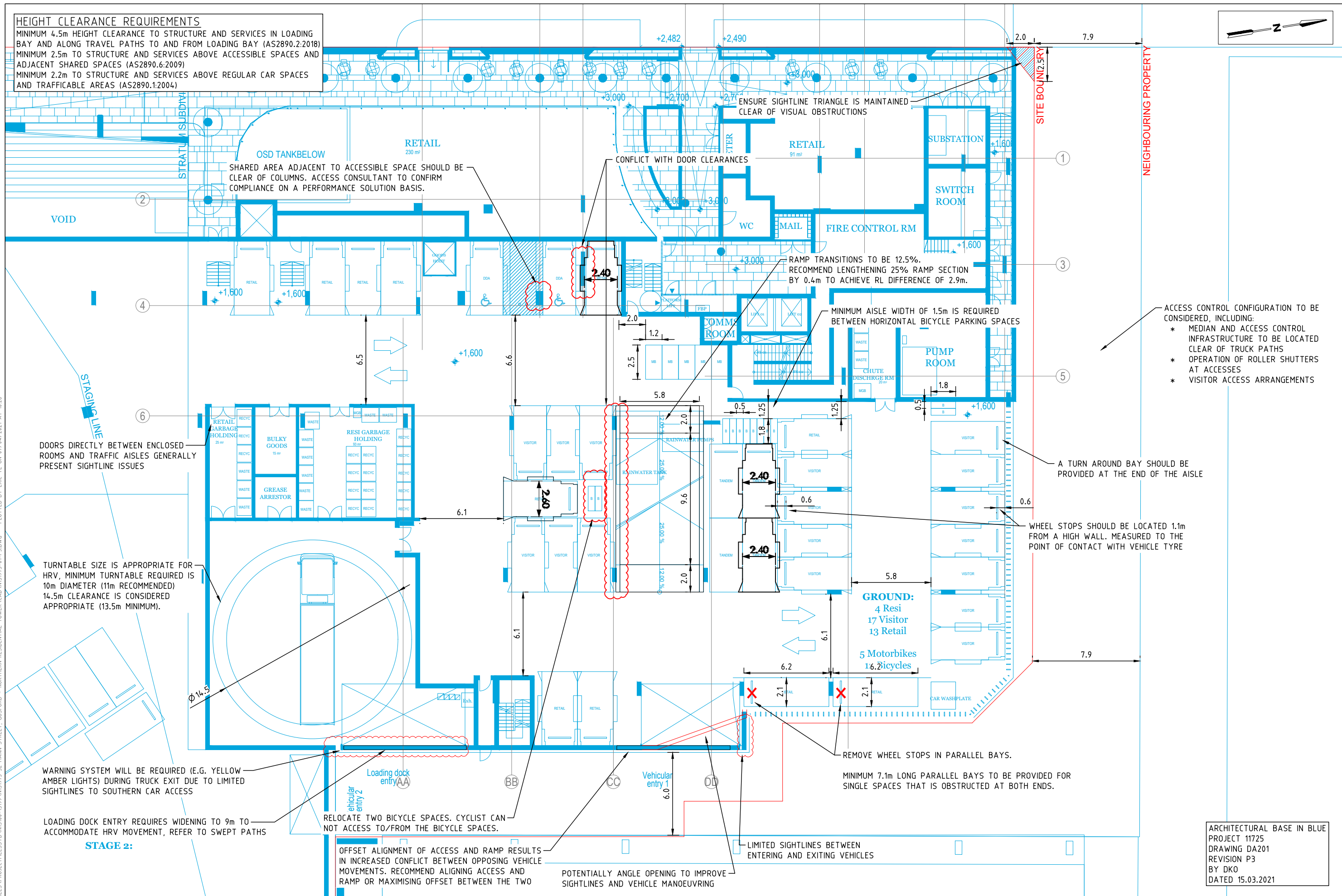
Pedestrian movement LOS values are based on average delay per pedestrian movement.

Intersection LOS value for Pedestrians is based on average delay for all pedestrian movements.

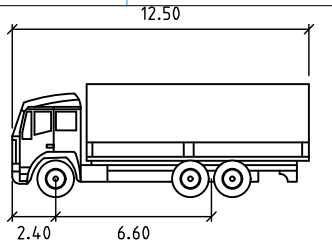
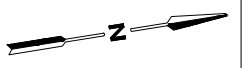
C. SWEPT PATH ASSESSMENT



HEIGHT CLEARANCE REQUIREMENTS
MINIMUM 4.5m HEIGHT CLEARANCE TO STRUCTURE AND SERVICES IN LOADING BAY AND ALONG TRAVEL PATHS TO AND FROM LOADING BAY (AS2890.2:2018)
MINIMUM 2.5m TO STRUCTURE AND SERVICES ABOVE ACCESSIBLE SPACES AND ADJACENT SHARED SPACES (AS2890.6:2009)
MINIMUM 2.2m TO STRUCTURE AND SERVICES ABOVE REGULAR CAR SPACES AND TRAFFICABLE AREAS (AS2890.1:2004)



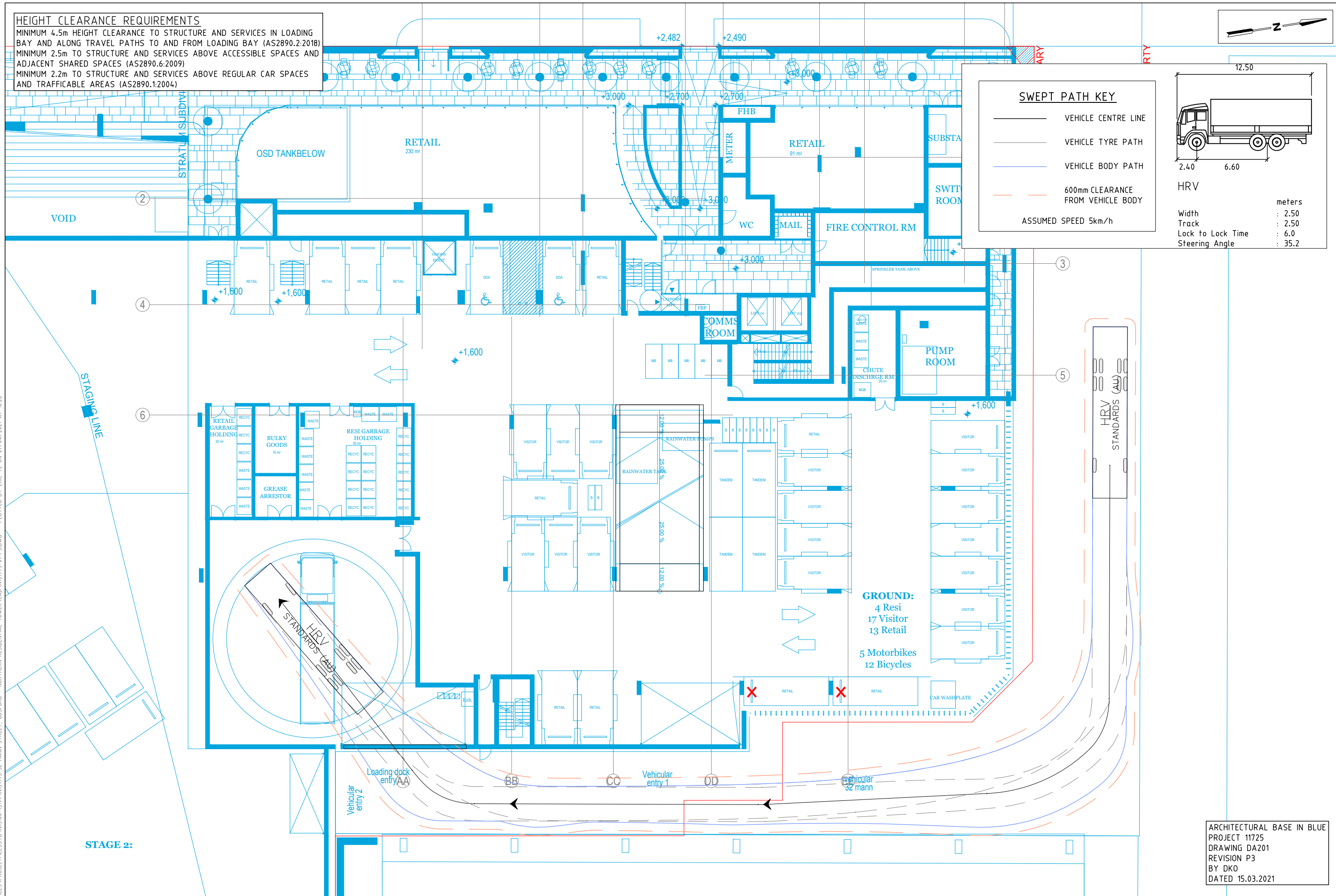
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HRV
Width : 2.50 meters
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 35.2

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



GROUND:
4 Resi
17 Visitor
13 Retail
5 Motorbikes
12 Bicycles

ARCHITECTURAL BASE IN BLUE
PROJECT 11725
DRAWING DA201
REVISION P3
BY DKO
DATED 15.03.2021



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DESIGNED
E.YE / R.ZHANG

DESIGN CHECK
H.OBERMAIER

APPROVED BY
M.McNATTY

DATE ISSUED
7 APRIL 2021

SCALE
A3 0 1.25 2.5 5 1:250

CAD FILE NO.
N131975-01-P3.DWG

32 MANN STREET

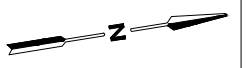
**GROUND LEVEL
SWEPT PATH ASSESSMENT**

DRAWING NO. N131975-01-02

SHEET 02 OF 09

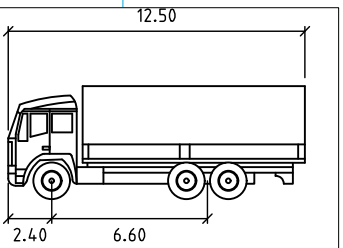
ISSUE P3

HEIGHT CLEARANCE REQUIREMENTS
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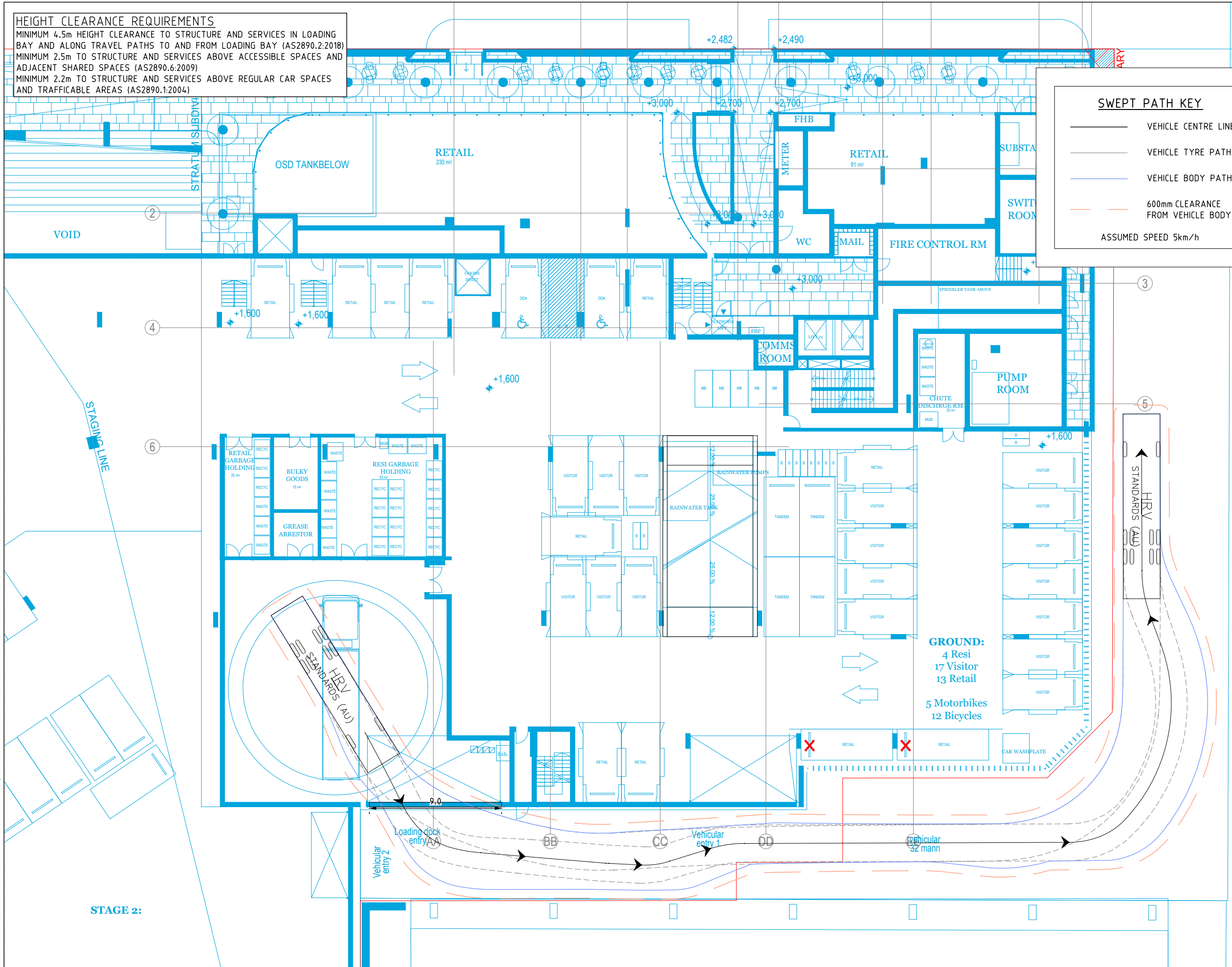
SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 600mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



HRV

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



GROUND:
4 Resi
17 Visitor
13 Retail

5 Motorbikes
12 Bicycles

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DATED 15.03.2021

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DESIGNED
E.YE / R.ZHANG

APPROVED BY
M.McNATTY

DESIGN CHECK
H.OBERMAIER

DATE ISSUED
7 APRIL 2021

SCALE
A3 0 1.25 2.5 5 1:250

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GROUND LEVEL
SWEPT PATH ASSESSMENT
DRAWING NO. N131975-01-03

SHEET 03 OF 09 ISSUE P3

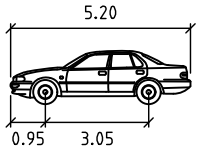
HEIGHT CLEARANCE REQUIREMENTS
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SITE BOUNDARY

NEIGHBOURING PROPERTY

SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 5km/h



B99 6.3mR

Width	1.94
Track	1.77
Lock to Lock Time	6.0
Steering Angle	34.0

GROUND:
4 Resi
17 Visitor
13 Retail
5 Motorbikes
12 Bicycles

GROUND:
4 Resi
17 Visitor
13 Retail
5 Motorbikes
12 Bicycles

CURRENT PROPOSED

RECOMMENDED PROPOSED

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**GROUND LEVEL
SWEPT PATH ASSESSMENT**

DRAWING NO. N131975-01-04

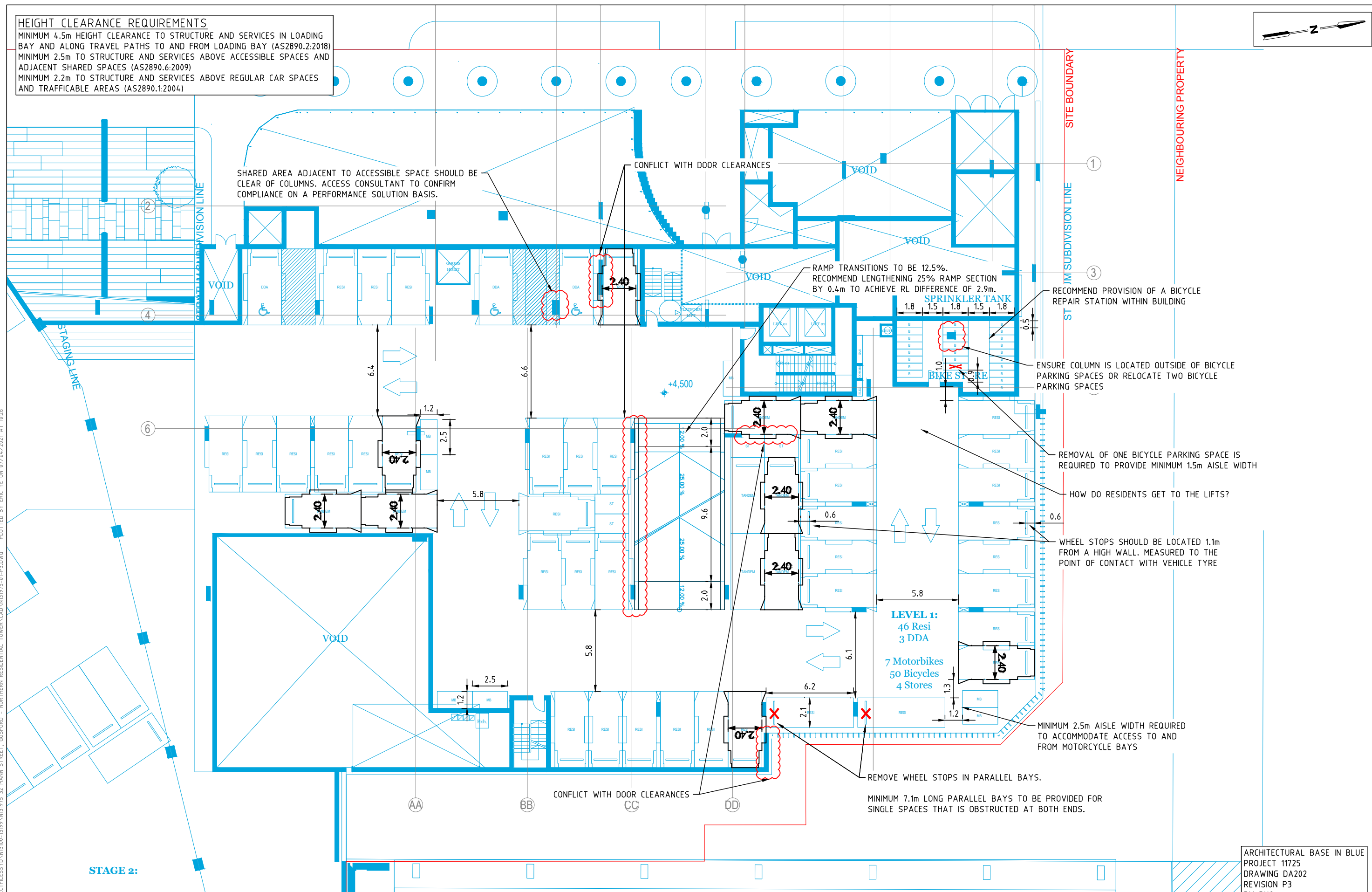
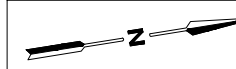
SHEET 04 OF 09

ISSUE P3

MINIMUM 4.5m HEIGHT CLEARANCE TO STRUCTURE AND SERVICES IN LOADING BAY AND ALONG TRAVEL PATHS TO AND FROM LOADING BAY (AS2890.2:2018)

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MINIMUM 2.2m TO STRUCTURE AND SERVICES ABOVE REGULAR CAR SPACES AND TRAFFICABLE AREAS (AS2890.1:2004)



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REVISION P3
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DATED 15.03.2021



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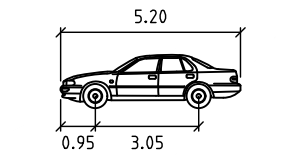
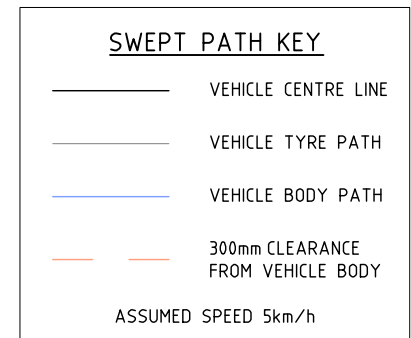
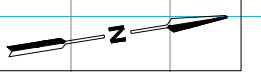
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SHEET 05 OF 09

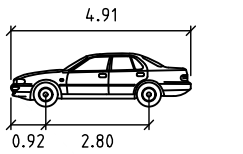
ISSUE P3

HEIGHT CLEARANCE REQUIREMENTS
MINIMUM 4.5m HEIGHT CLEARANCE TO STRUCTURE AND SERVICES IN LOADING BAY AND ALONG TRAVEL PATHS TO AND FROM LOADING BAY (AS2890.2:2018)
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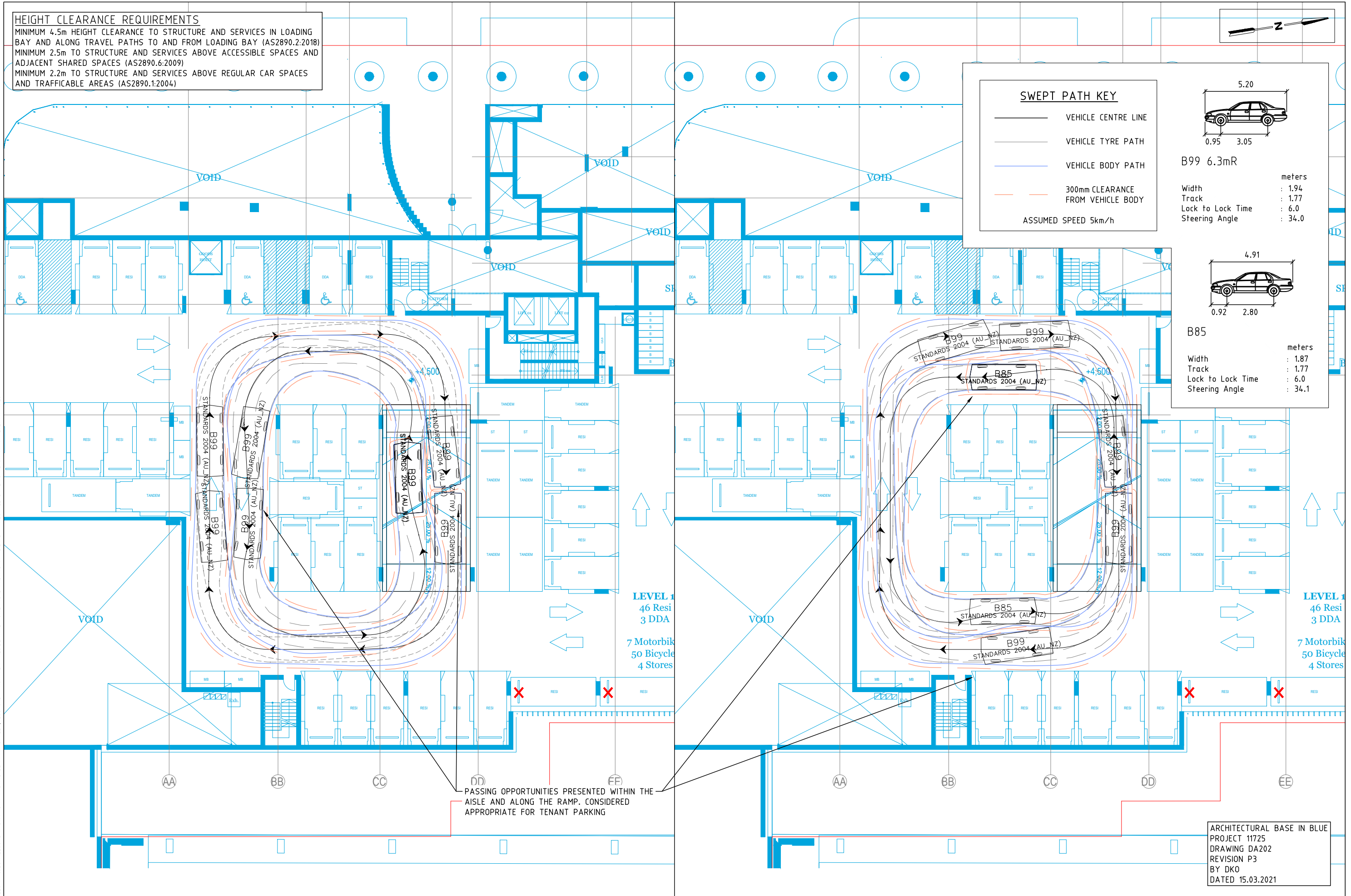
B99 6.3mR

Width	: 1.94	meters
Track	: 1.77	
Lock to Lock Time	: 6.0	
Steering Angle	: 34.0	



B85

Width	: 1.87	meters
Track	: 1.77	
Lock to Lock Time	: 6.0	
Steering Angle	: 34.1	



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DESIGNED
E.YE / R.ZHANG

DESIGN CHECK
H.OBERMAIER

APPROVED BY
M.McNATTY

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32 MANN STREET

**LEVEL 1
SWEPT PATH ASSESSMENT**

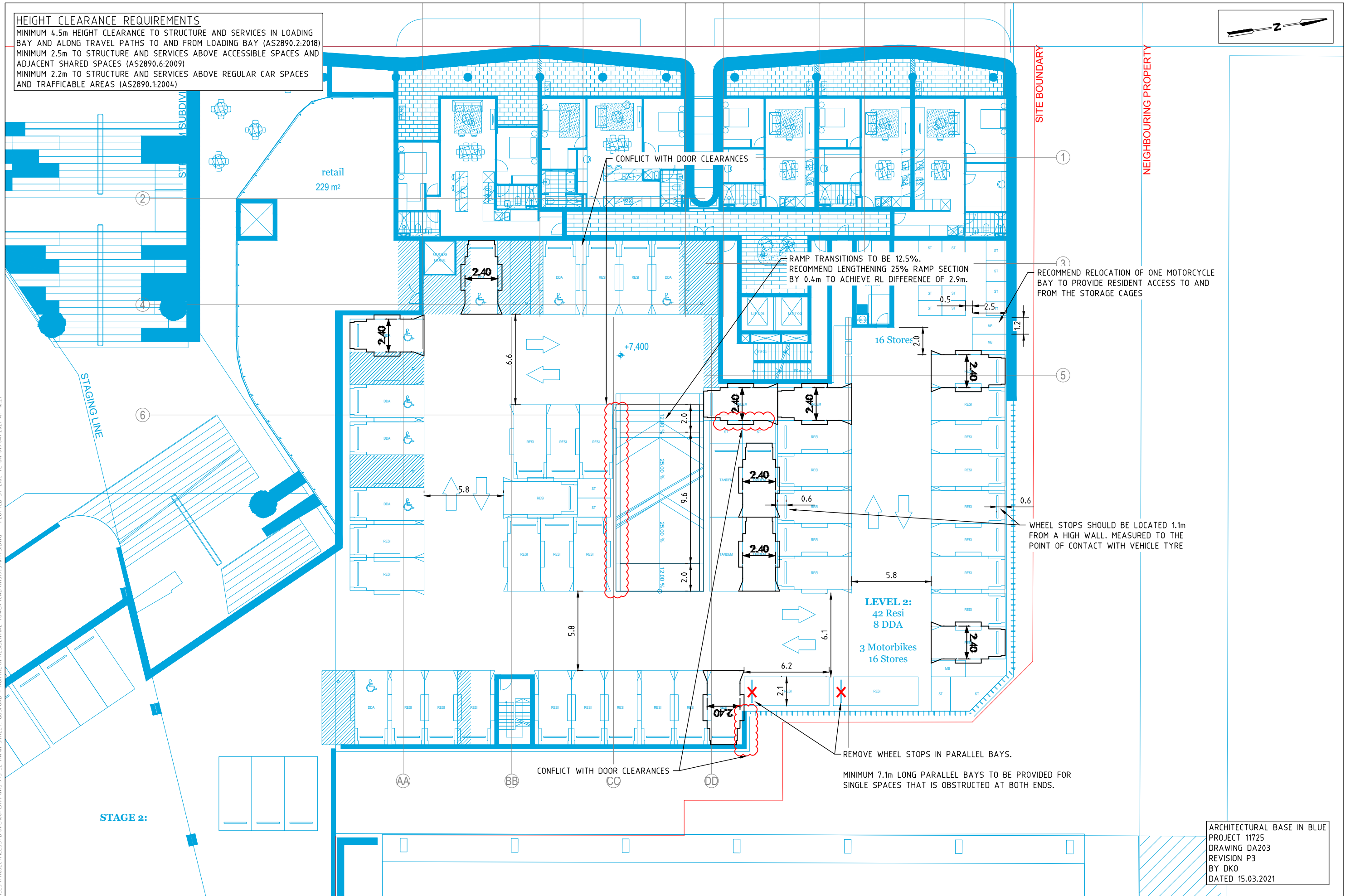
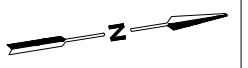
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SHEET 06 OF 09

ISSUE P3

ARCHITECTURAL BASE IN BLUE
PROJECT 11725
DRAWING DA202
REVISION P3
BY DKO
DATED 15.03.2021

HEIGHT CLEARANCE REQUIREMENTS
MINIMUM 4.5m HEIGHT CLEARANCE TO STRUCTURE AND SERVICES IN LOADING BAY AND ALONG TRAVEL PATHS TO AND FROM LOADING BAY (AS2890.2:2018)
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MINIMUM 2.2m TO STRUCTURE AND SERVICES ABOVE REGULAR CAR SPACES AND TRAFFICABLE AREAS (AS2890.1:2004)



ARCHITECTURAL BASE IN BLUE
PROJECT 11725
DRAWING DA203
REVISION P3
BY DKO
DATED 15.03.2021



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DESIGNED
E.YE / R.ZHANG

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H.OBERMAIER

APPROVED BY
M.McNATTY

DATE ISSUED
7 APRIL 2021

SCALE
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CAD FILE NO.
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32 MANN STREET

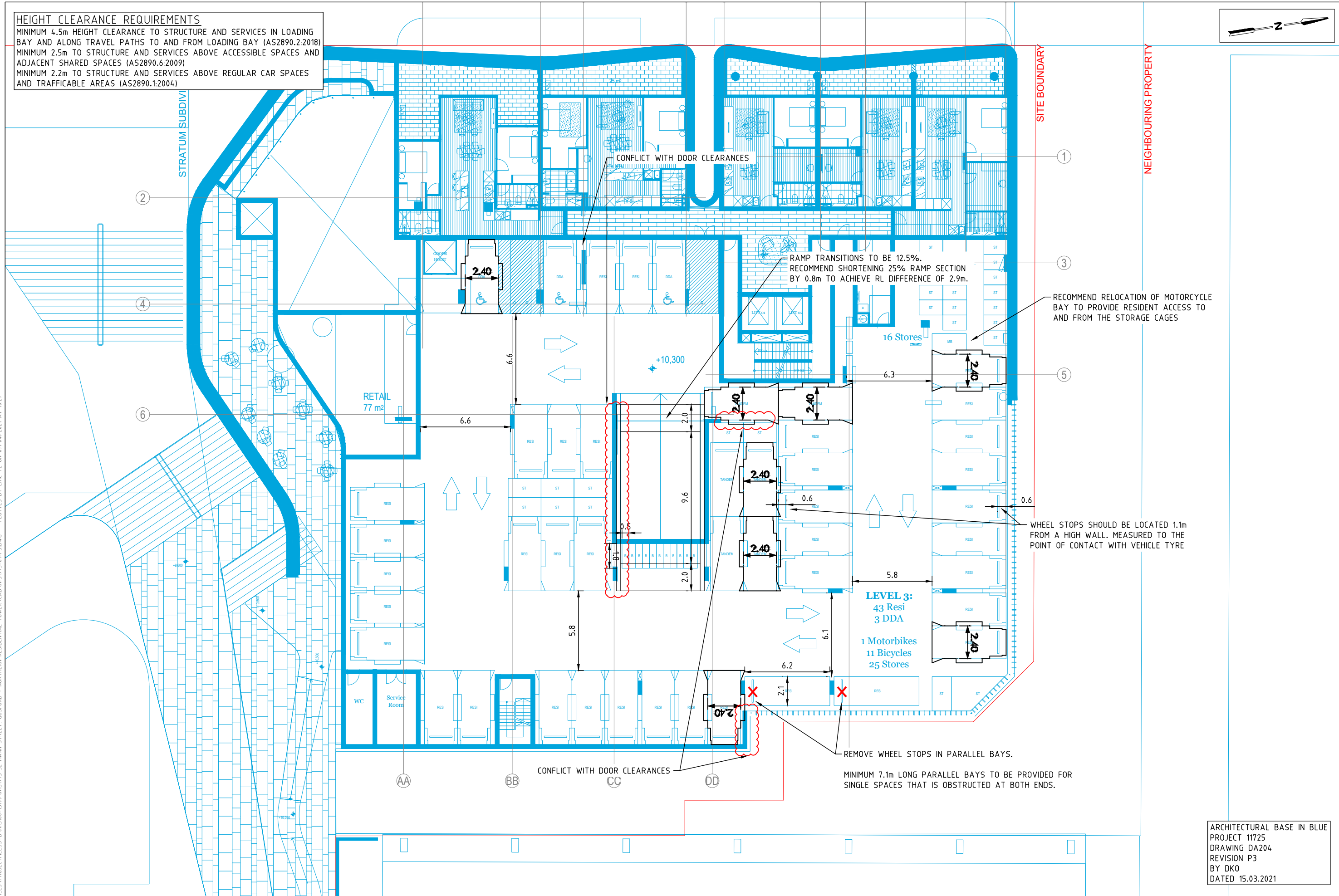
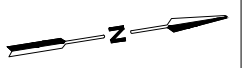
**LEVEL 2
LAYOUT**

DRAWING NO. N131975-01-07

SHEET 07 OF 09

ISSUE P3

HEIGHT CLEARANCE REQUIREMENTS
MINIMUM 4.5m HEIGHT CLEARANCE TO STRUCTURE AND SERVICES IN LOADING BAY AND ALONG TRAVEL PATHS TO AND FROM LOADING BAY (AS2890.2:2018)
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ARCHITECTURAL BASE IN BLUE
PROJECT 11725
DRAWING DA204
REVISION P3
BY DKO
DATED 15.03.2021



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DESIGN CHECK
H.OBERMAIER

APPROVED BY
M.McNATTY

DATE ISSUED
7 APRIL 2021

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32 MANN STREET

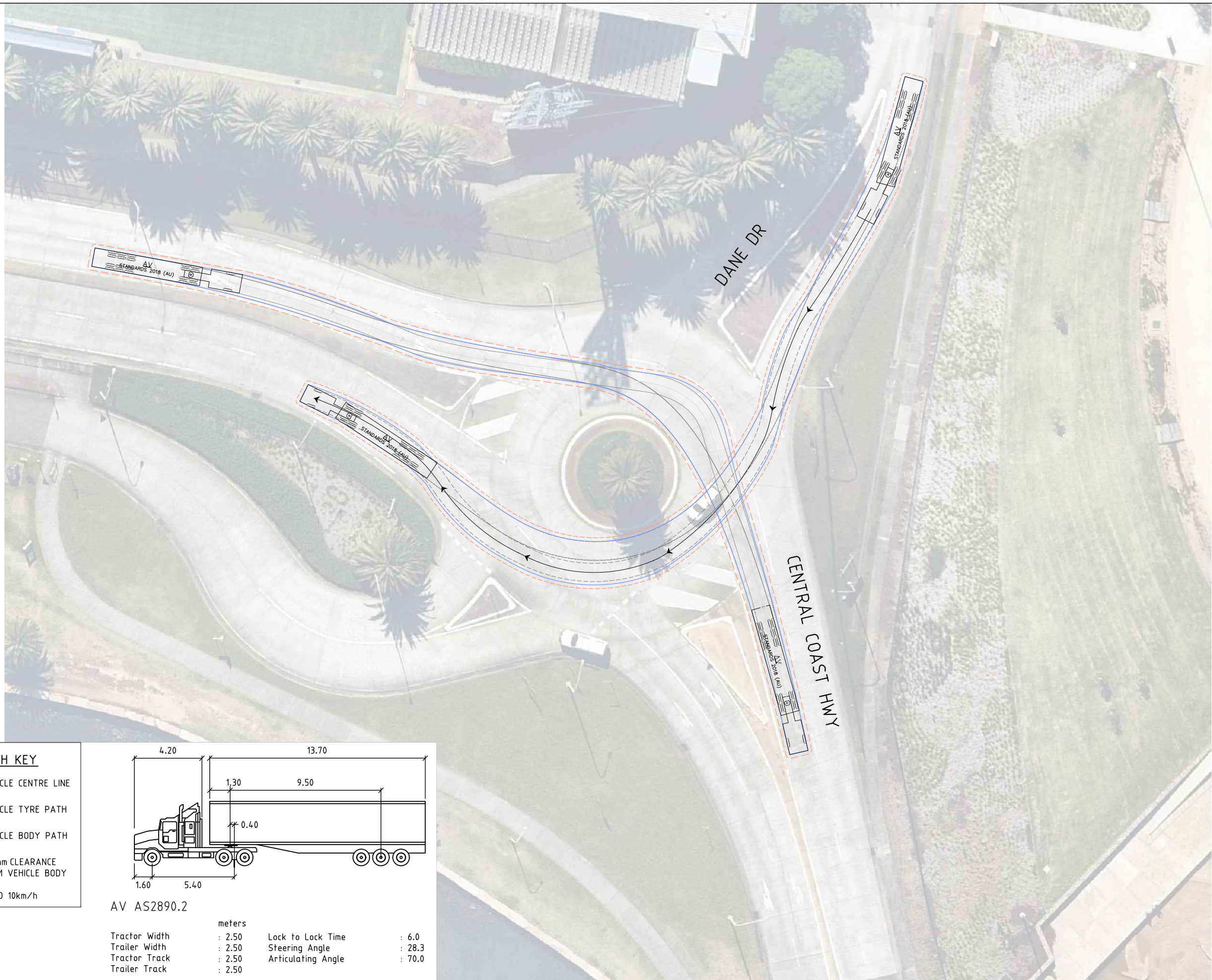
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LAYOUT**

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SHEET 08 OF 09

ISSUE P3

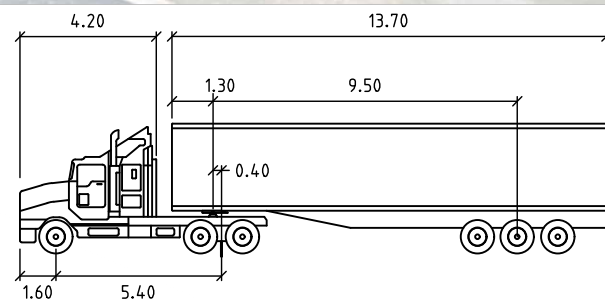
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SWEPT PATH KEY

- VEHICLE CENTRE LINE
- - - VEHICLE TYRE PATH
- VEHICLE BODY PATH
- - - 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



AV AS2890.2

	Tractor Width	Trailer Width	Tractor Track	Trailer Track	Lock to Lock Time	Steering Angle	Articulating Angle
metres	: 2.50	: 2.50	: 2.50	: 2.50	: 6.0	: 28.3	: 70.0



PRELIMINARY PLAN
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NOTIFICATION

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATIONS OF UNDERGROUND SERVICES ARE
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DESIGNED
J.HUANG

APPROVED BY
K.MCNATTY

DESIGN CHECK
E.YE

DATE ISSUED
11 AUGUST 2021

SCALE
A3 0 2.5 5 10 1:500

CAD FILE NO.
N131976-01-P1.DWG

32 MANN STREET GOSFORD

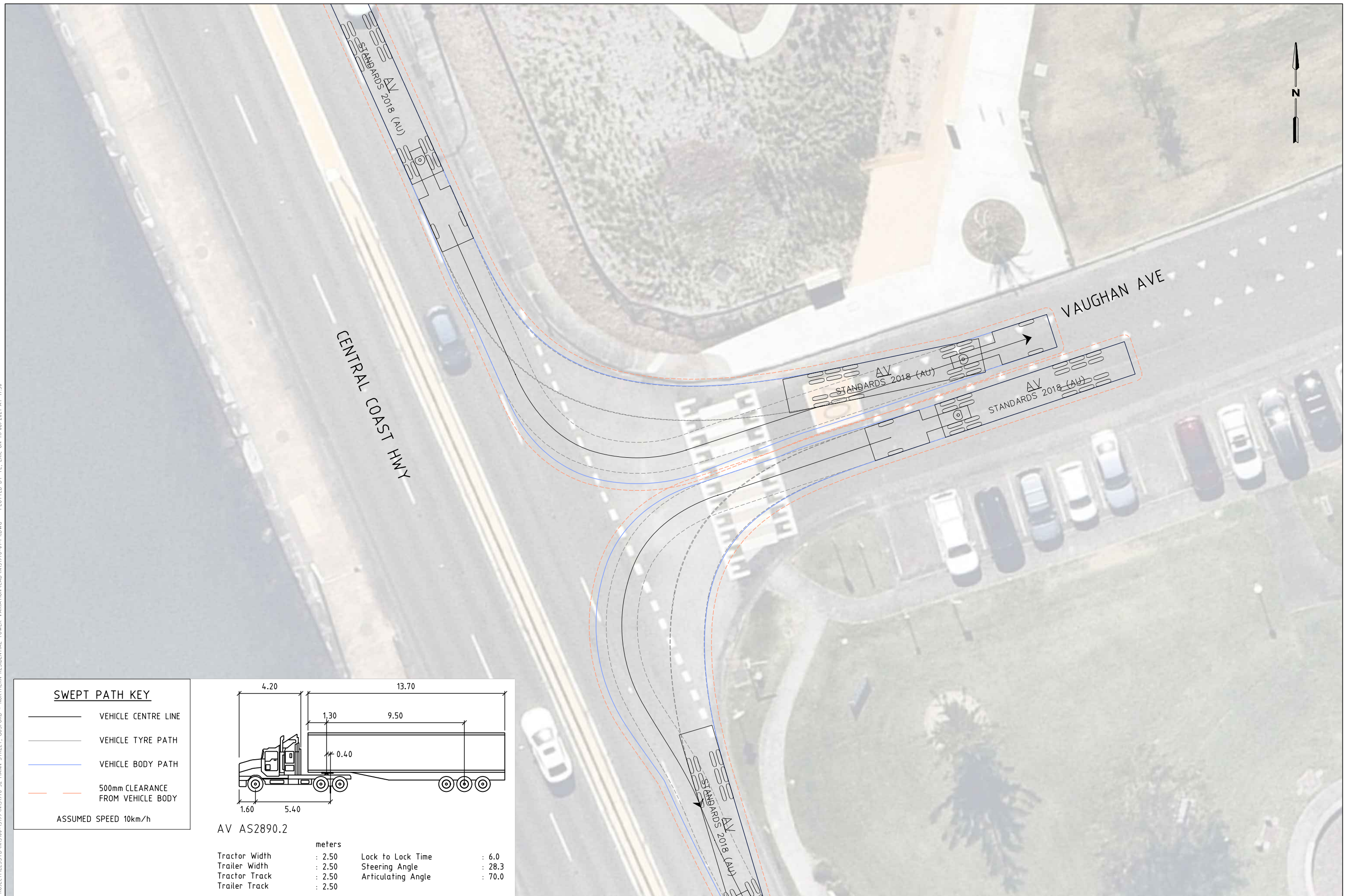
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-01

SHEET 01 OF 10

ISSUE P1

\\CORP-ADS\GTADATA\PROJECT\FILESS\VD\N13100-13199\W131976-32 MANN STREET_GOSFORD - NORTHERN RESIDENTIAL TOWER VARIATION\CAD\W131976-01-P1.DWG PLOTTED BY YE, ERC ON 11/08/2021 AT 17:50



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SCALE
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CAD FILE NO.
N131976-01-P1.DWG

32 MANN STREET GOSFORD

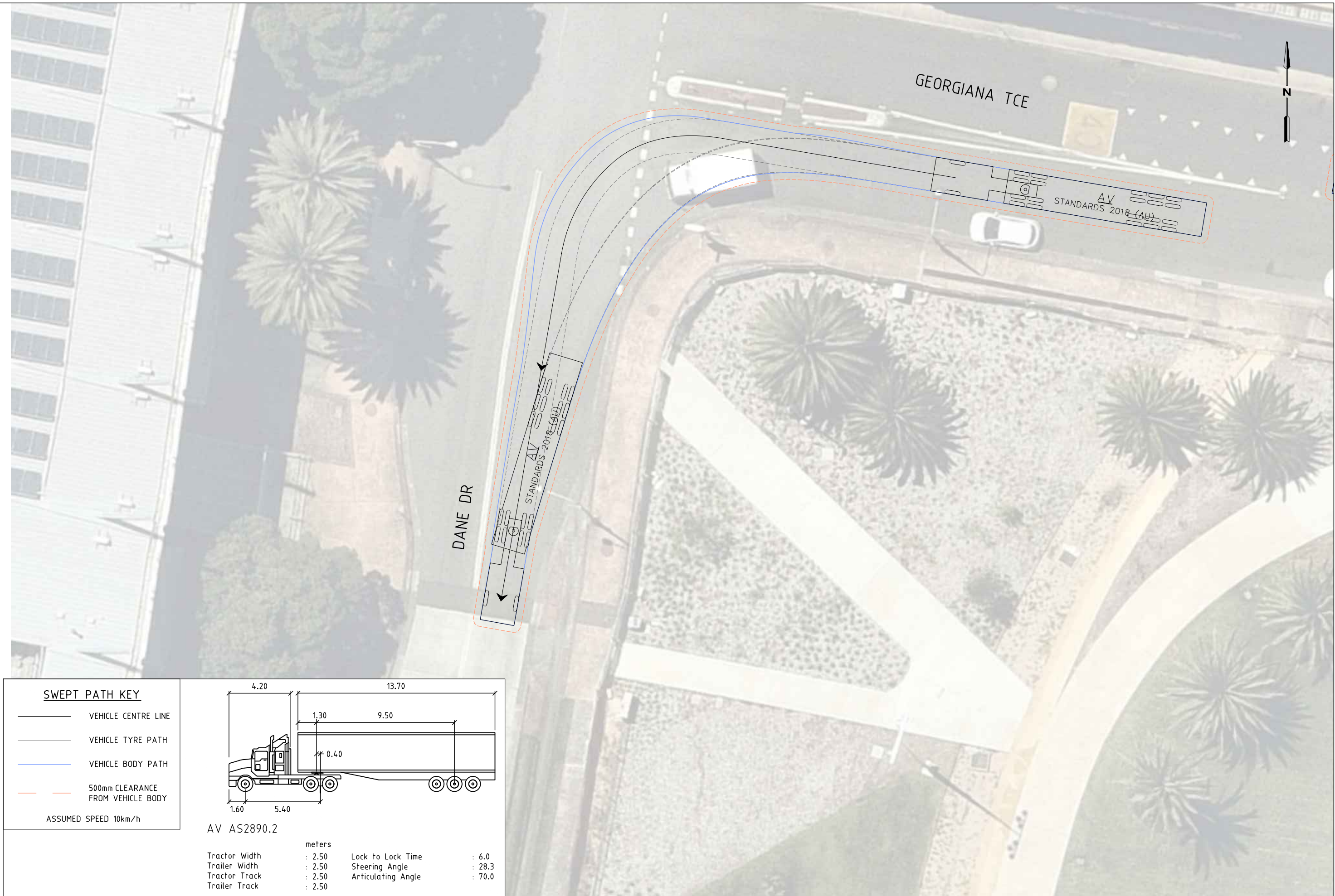
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-02

SHEET 02 OF 10

ISSUE P1

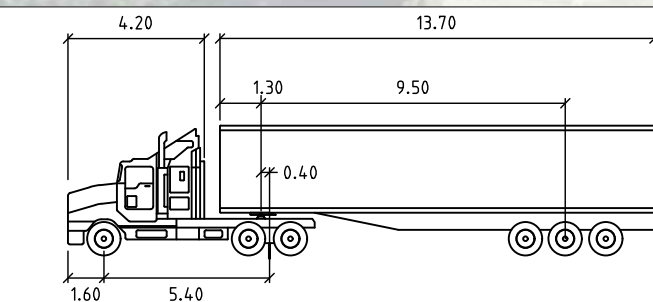
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SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



AV AS2890.2

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



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CAD FILE NO.
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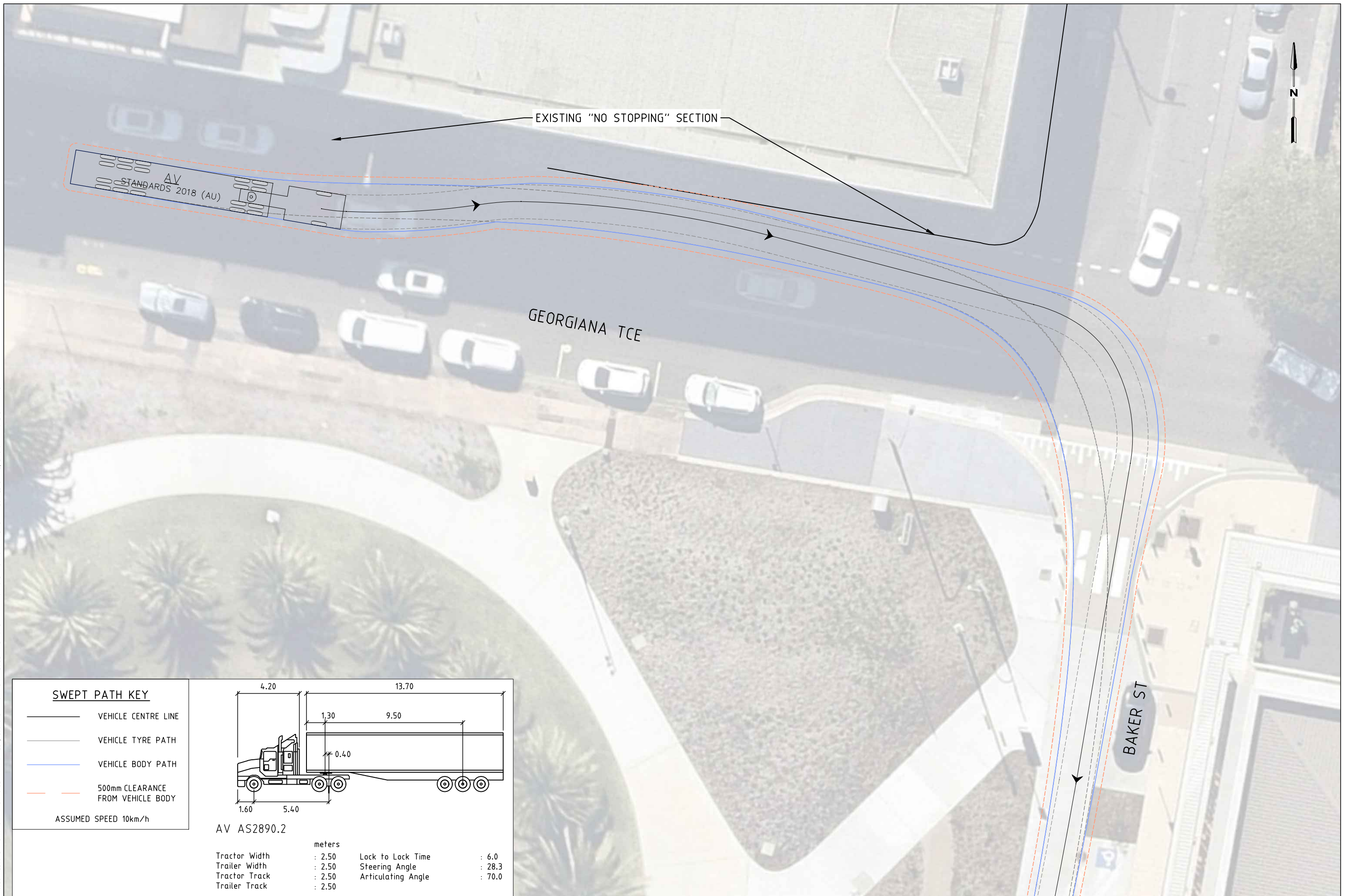
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-03

SHEET 03 OF 10

ISSUE P1

\\CORP-ADS\GTADATA\PROJECT\FILESS\VD\N13100-13199\W131976-32 MANN STREET_GOSFORD - NORTHERN RESIDENTIAL TOWER VARIATION\CAD\N131976-01-P1.DWG PLOTTED BY YE, ERC ON 11/08/2021 AT 17:50



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CAD FILE NO.
N131976-01-P1.DWG

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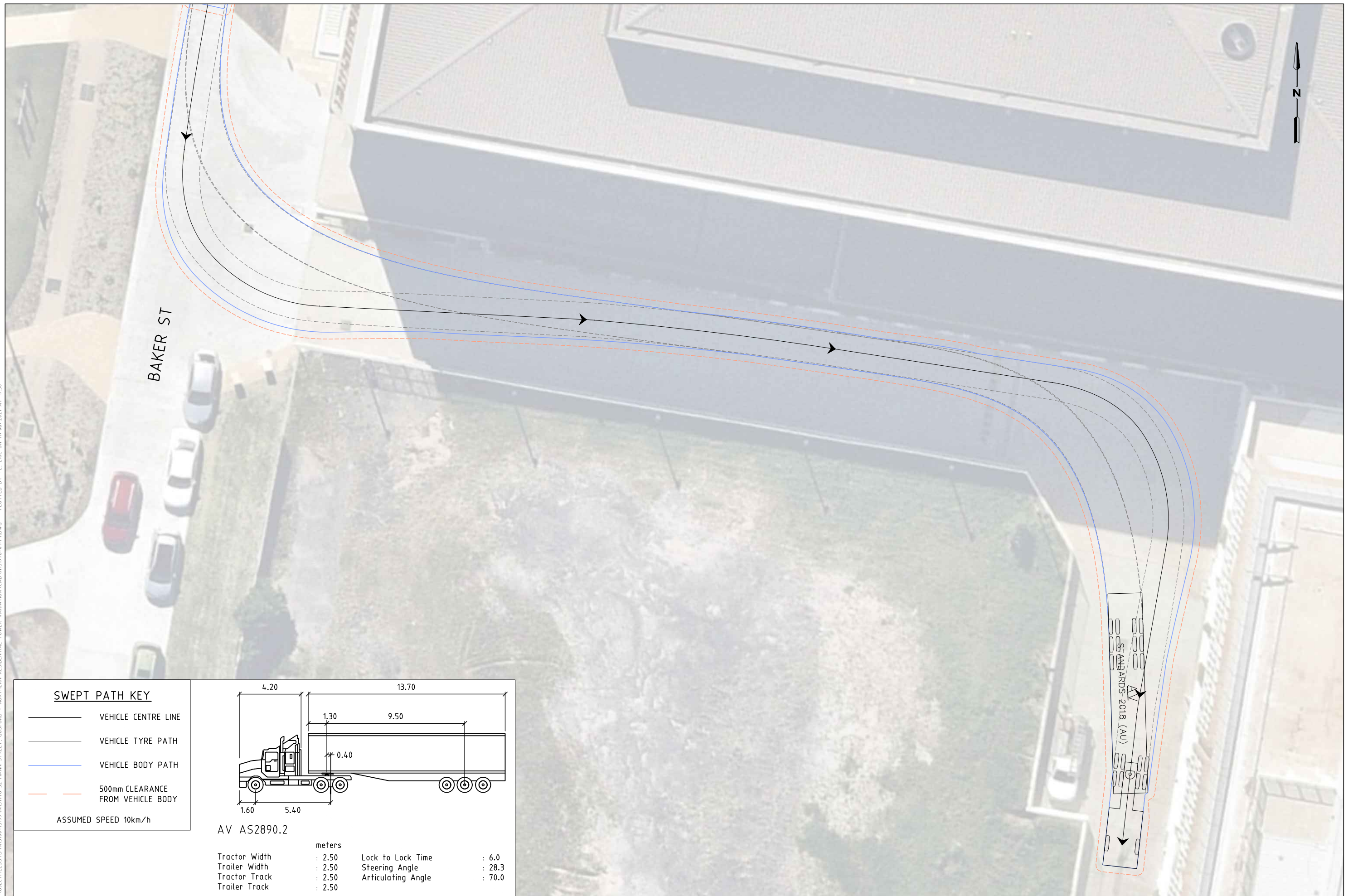
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-04

SHEET 04 OF 10

ISSUE P1

\\CORP-ADS\GTADATA\PROJECT\FILESS\VD\N13100-13199\N131976-32 MANN STREET_GOSFORD - NORTHERN RESIDENTIAL TOWER VARIATION\CAD\N131976-01-P1.DWG PLOTTED BY YE, ERC ON 11/08/2021 AT 17:50



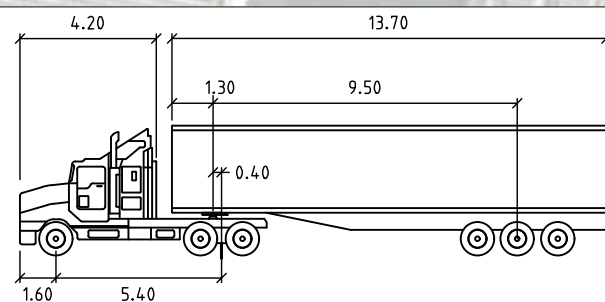
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SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



AV AS2890.2

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



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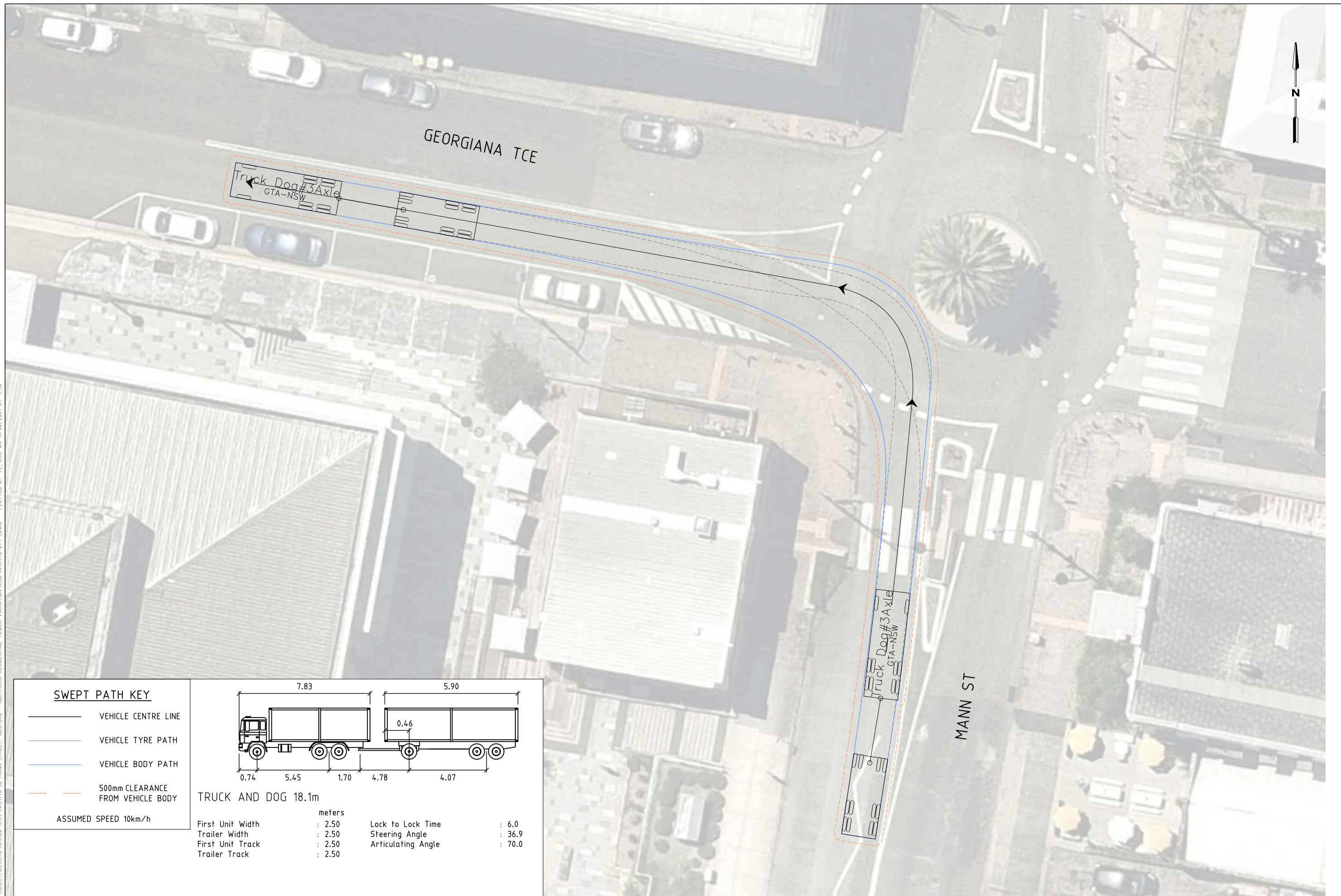
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-06

SHEET 06 OF 10

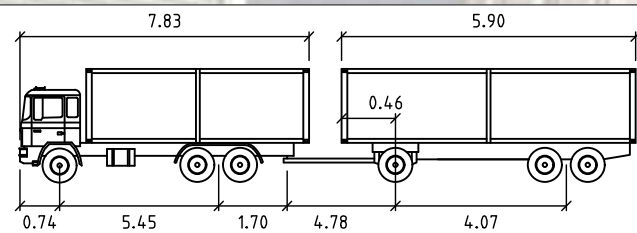
ISSUE P1

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SWEPT PATH KEY

- VEHICLE CENTRE LINE
 - VEHICLE TYRE PATH
 - VEHICLE BODY PATH
 - 500mm CLEARANCE FROM VEHICLE BODY
- ASSUMED SPEED 10km/h



TRUCK AND DOG 18.1m

First Unit Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 36.9
First Unit Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



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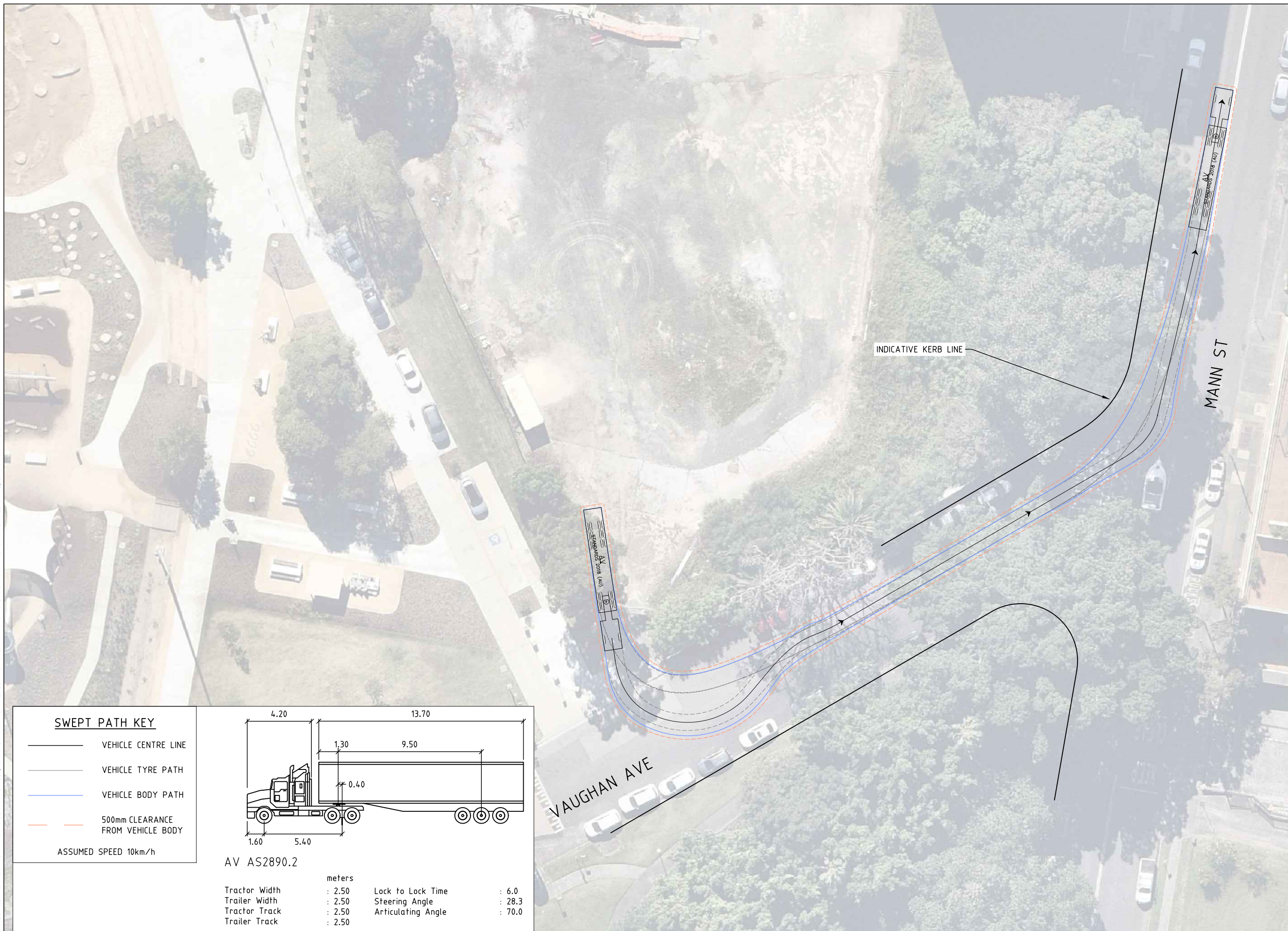
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-07

SHEET 07 OF 10

ISSUE P1

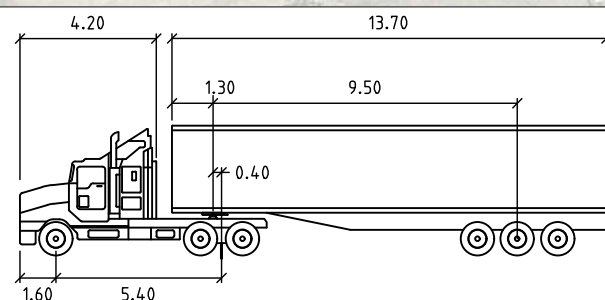
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SWEPT PATH KEY

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



AV AS2890.2

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



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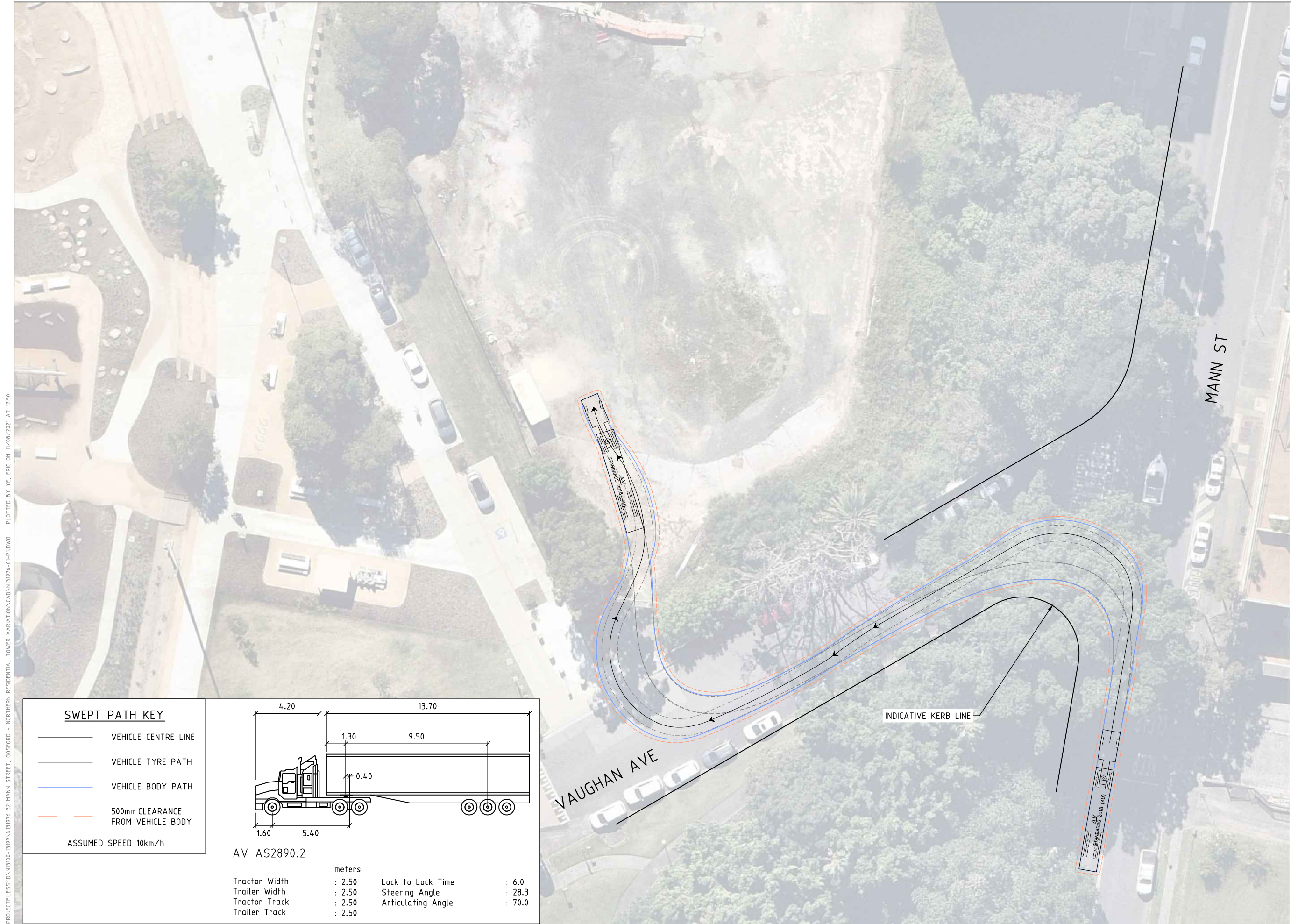
SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-08

SHEET 08 OF 10

ISSUE P1

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SWEPT PATH KEY

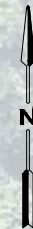
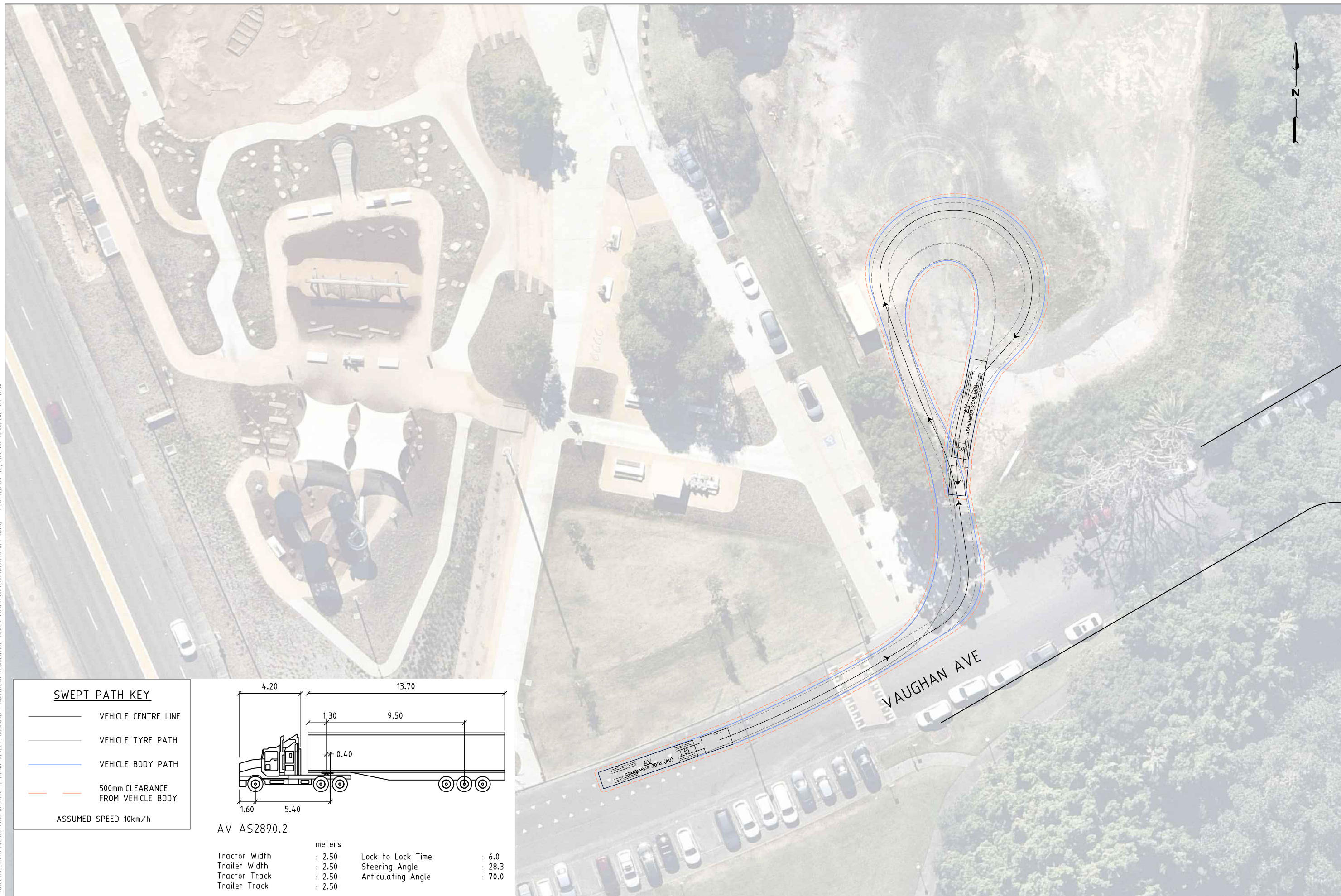
- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h

AV AS2890.2

	Tractor Width	Trailer Width	Tractor Track	Trailer Track
meters	: 2.50	: 2.50	: 2.50	: 2.50
	Lock to Lock Time	Steering Angle	Articulating Angle	
	: 6.0	: 28.3	: 70.0	

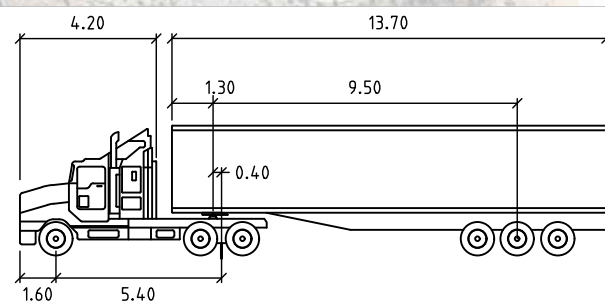
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SWEPT PATH KEY

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- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

ASSUMED SPEED 10km/h



AV AS2890.2

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 28.3
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



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CAD FILE NO.
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32 MANN STREET GOSFORD

SWEPT PATH ASSESSMENT

DRAWING NO. N131976-01-10

SHEET 10 OF 10

ISSUE P1

