

Traffic Impact Assessment Report

Warehouse Development
238-258 Captain Cook Drive, Kurnell

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Table of Contents

1	INTRODUCTION	1
1.1	OVERVIEW	1
1.2	REPORT STRUCTURE	3
2	OVERVIEW OF PROPOSAL	4
2.1	SUMMARY OF PROPOSED DEVELOPMENT	4
3	EXISTING CONDITIONS.....	6
3.1	SITE & LOCATION	6
3.2	ROAD HIERARCHY	6
3.3	EXISTING TRAFFIC CONDITIONS.....	8
3.4	DICKER DATA WAREHOUSE EXISTING TRAFFIC GENERATION.....	9
4	PUBLIC TRANSPORT, CYCLING AND PEDESTRIAN ACCESS.....	10
4.1	BUS SERVICES	10
4.2	EXISTING PEDESTRIAN ACCESSIBILITY	10
4.3	EXISTING CYCLE ROUTES	10
4.4	MODE SHARE	13
5	PARKING & SERVICING REQUIREMENTS.....	14
5.1	CAR PARKING REQUIREMENTS – DCP RATES.....	14
5.2	CAR PARKING REQUIREMENTS – FIRST PRINCIPLE PARKING ASSESSMENT	14
5.3	PARKING SUMMARY	15
5.4	OTHER PARKING REQUIREMENTS.....	15
5.5	SERVICING AND WASTE COLLECTION.....	16
6	TRAFFIC ASSESSMENT.....	17
6.1	OPERATIONAL TRAFFIC GENERATION – RMS RATES.....	17
6.2	OPERATIONAL TRAFFIC GENERATION – FIRST PRINCIPLE ASSESSMENT	18
6.3	DAILY TRAFFIC GENERATION – FIRST PRINCIPLE ASSESSMENT	22
6.4	APPROVED DEVELOPMENT – CONSIDERED CUMULATIVE IMPACTS	23
6.5	CYCLING AND PEDESTRIAN TRIPS.....	25
6.6	TRAFFIC IMPACTS	26
7	DESIGN COMMENTARY	28
7.1	RELEVANT DESIGN STANDARDS	28
7.2	VEHICLE SITE ACCESS.....	28
7.3	LANE GEOMETRY OF THE SITE ACCESS AND CAPTAIN COOK DRIVE INTERSECTION.....	28
7.4	CARPARK DESIGN SUMMARY	29
8	SUSTAINABLE TRAVEL PLAN	31
8.1	PURPOSE	31
8.2	PROPOSED SITE FACILITIES AND STAFF	32
8.3	TRAVEL MODE SHARE ANALYSIS	32
8.4	SURROUNDING PUBLIC TRANSPORT SERVICES	33
8.5	MODE SHARE TARGETS	35
8.6	ACTION PLAN	36
8.7	COMMUNICATIONS STRATEGY	38
8.8	TRAVEL PLAN COORDINATOR.....	38
8.9	PLAN MAINTENANCE	39
8.10	TRAVEL MODE AUDIT REQUIREMENTS	39
9	CONSTRUCTION TRAFFIC MANAGEMENT PLAN	40
9.1	CONTRACTOR PARKING	40
9.2	PROPOSED WORK HOURS	40
9.3	AUTHORISED TRAFFIC CONTROLLER	40
9.4	CONSTRUCTION TRAFFIC GENERATION.....	41
9.5	POTENTIAL HAULAGE ROUTES	41
10	CONCLUSIONS	43

Appendices

- Appendix A: Reduced Plans
- Appendix B: SIDRA Output Results
- Appendix C: Swept Path Analysis & Design Commentary
- Appendix D: TTW Acceleration Lane - Statement
- Appendix E: Workplace Travel Plan
- Appendix F: Workplace Travel Survey Sample

1 Introduction

1.1 Overview

Ason Group has been engaged to prepare a Traffic Impact Assessment (TIA) report to support the State Significant Development Application (SSDA) for a proposed warehouse development at 238-258 Captain Cook Drive, Kurnell (the Site). The Proposal consists of 39,485m² of Warehouse Gross Floor Area (GFA), 5,950 m² of ancillary Office GFA and 925 m² of amenities. It is likely the development would be constructed in two stages however for the purpose of this traffic assessment, the final development yield has been considered. The Site is located within the Sutherland Shire Council (LGA) and is therefore subject to that Council's controls.

This TIA report provides an assessment of the relevant traffic, transport and parking implications of the Proposal. This report also responds to the Secretary's Environmental Assessment Requirements (SEARs) dated September 2017. In preparing this TIA, Ason Group has referenced key planning documents, these include:

- Sutherland Shire Development Control Plan 2015 (DCP)
- Sutherland Shire Local Environmental Plan 2015 (LEP)
- Guide to Traffic Generating Developments (RMS)
- Planning Guidelines for Walking and Cycling (NSW Government)
- Austroads Guide to Traffic Management – Part 12: Traffic Impacts of Development
- Cycling Aspects of Austroads Guides
- Road Design Guide (RTA)
- NSW 2021: A Plan to Make NSW Number One (NSW Government)
- NSW Long Term Transport Master Plan (TfNSW)
- Sydney's Walking Future (TfNSW)
- Sydney's Cycling Future (TfNSW)

This TIA also references general access, traffic and parking guidelines, including:

- Roads and Maritime Services, Guide to Traffic Generating Developments (RMS Guide)
- Australian Standard 2890.1: Parking Facilities – Off Street Car Parking (AS 2890.1)
- Australian Standard 2890.2: Parking Facilities – Off Street Commercial Vehicle Facilities (AS 2890.2)

As the development is considered State Significant, Secretary's Environmental Assessment Requirements (SEARs) have been obtained from the NSW Department of Planning and Environment. The SEARs to be addressed within this report are provided in **Table 1**.

Table 1: Secretary's Environmental Assessment Requirements

SEARs	Response
A Traffic Impact Assessment detailing all daily and peak traffic and transport movements likely to be generated (vehicle, pedestrian and cycle trips) during construction and operation of the development, including a description of vehicle access routes and the impacts on nearby intersections	Operational traffic generation for vehicles, pedestrian and cycling has been based on a first principle assessment of the number of employees on Site (See Section 6). Construction traffic generation has been considered in Section 9.
An assessment of predicted impacts on road safety and the capacity of the road network to accommodate the development	<p>Capacity of the Road Network</p> <p>Section 6 provides an assessment of the traffic to be generated by the Proposal, demonstrating that the local road network would continue to function and operate within acceptable limits of performance.</p> <p>Road Safety Impacts</p> <p>Acceleration lanes are provided for each access driveway providing suitable infrastructure improvement for development traffic to join the external road network.</p> <p>All access driveways are design in accordance with AS 2890 series with consideration for the largest vehicles anticipated to access the site.</p>
Plans of any road upgrades or new roads required to service the development, if necessary	<p>It is proposed that an extension of the acceleration lanes along Captain Cook Drive would be required to service the proposed access points. This is further discussed in Section 7.2.</p> <p>No other upgrades are required.</p>
An assessment of the adequacy of public transport to meet the likely future demand of the proposed development	A Sustainable Travel Plan has been developed in Section 8 to assess the adequacy of public transport and provide measures to promote the use of active and sustainable travel practices.
Detailed plans of the proposed layout of parking provision on-site in accordance with the relevant parking codes and Australian Standards	The parking requirements for the Proposal have been based on a first principles assessment as the generic DCP requirements would result in an under provision (Refer to Section 5).
Details of service vehicle access, delivery and loading arrangements and estimated service vehicle movements including vehicle type and the likely arrival and departure times	Details of servicing are discussed in Section 5.5.
Details of the likely dangerous goods to be transported on arterial and local roads to/from the site, if any, and the preparation of an incident management strategy	As advised by Dicker data, the Operation of the proposed facility would not require the transportation of dangerous goods on arterial and local roads to/from the Site. As such, the preparation of an incident management strategy is not required.

1.2 Report Structure

The report is structured as follows:

- Section 2 provides a summary of the proposed development
- Section 3 describes the existing site conditions and land use
- Section 4 describes planned public transport, pedestrian and cycling links.
- Section 5 outlines the parking requirements applicable to the proposed development.
- Section 6 assesses the traffic impacts of the development including the Site's projected trip generation and forecasted network performance
- Section 7 discusses the site access and internal design of the development
- Section 8 describes the Sustainable Travel Plan
- Section 9 provides a construction traffic management plan.
- Section 10 provides a summary of the key conclusions.

2 Overview of Proposal

2.1 Summary of Proposed Development

A detailed description of the proposed development is included in the Statement of Environmental Effects, prepared separately by BBC Consulting Planners. In summary, the application relates to the construction of a warehouse development with ancillary office space and surface car parking. The following summarises key aspects of the Proposal:

- Stage 1:
 - 22,900 m² of Warehouse GFA
 - 3,980 m² of Ancillary Office GFA
- Stage 2:
 - 16,585 m² of Warehouse GFA
 - 1,970 m² of Office GFA
- Combined Stage 1 & 2:
 - 39,485 m² of Warehouse GFA
 - 5,950 m² of Office GFA
 - 925 m² of Amenities (Café, Gym, Lobby, Amenities)
- A total of 390 parking spaces (including 4 accessible parking spaces and 10 visitor spaces)
- Provision of 30 bicycle spaces.
- Provision of 18 Motorcycle spaces.
- Heavy/Light Vehicle access from the northern two-way access driveway via Captain Cook Drive.
- Light Vehicle exit (only) at the southern driveway along Captain Cook Drive.

Reference should be made to the plans prepared by WMK Architects, which are submitted separately. A reduced copy of the relevant plans is produced at a reduced scale for context below.

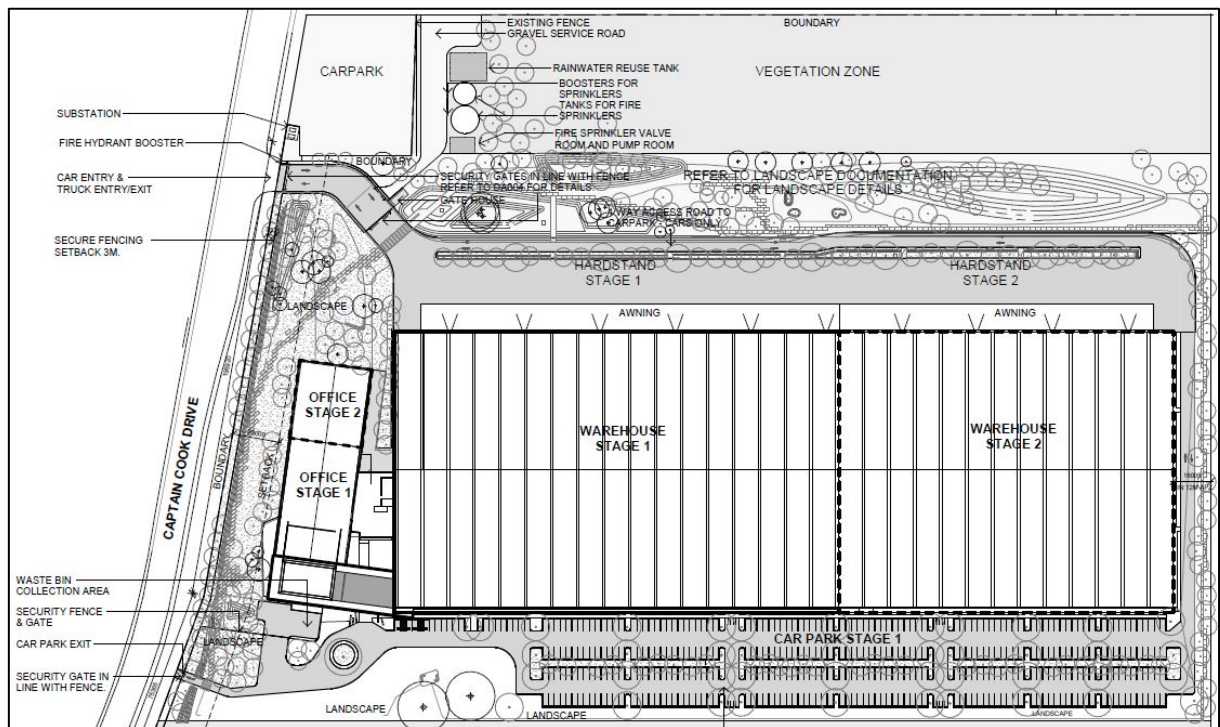


Figure 1: Site Layout

3 Existing Conditions

3.1 Site & Location

The Site is located within Sutherland Shire Council LGA in Kurnell approximately 18.0 kilometres south of Sydney CBD and 10 kilometres south of Sydney Airport. The site has an area of 166,119 m² with frontages to Captain Cook Drive to the north, industrial development to the east and vegetation to the south and west. **Figure 2: Site and Road Hierarchy** provides an appreciation of the site and the existing conditions. The Site is currently zoned IN1 General Industrial under Sutherland Shire Local Environment Plan 2015 and is legally known as Lot 2 in DP1088703 and Lot 1 in DP225973.

3.2 Road Hierarchy

The key roads in the vicinity of the site are summarised below:

- Captain Cook Drive – an unclassified RMS Regional Road (7031) that generally runs in an east-west direction to the north of the Site. The southern section of Captain Cook Drive within North Cronulla also forms part of RMS Main Road MR662 and RMS Secondary Road SR2075. It provides access to Taren Point Road and The Boulevarde in Miranda. Captain Cook Drive an approved RMS heavy vehicle route permitted to carry 19m Articulated Vehicles and 25/26m B-Double vehicles. The road carries one lane of traffic in both directions and generally provides a bicycle path on each side of the road. A speed limit of 60km/h applies to Captain Cook Drive.
- Sir Joseph Banks Drive – a local road that generally runs in the north-south direction to the east of the site. It connects directly to Captain Cook Drive and carries a single lane of traffic in both directions. A speed limit of 60km/hr applies to this road.
- Elouera Road – a sub-arterial road with two trafficable lanes that generally runs in a north-south configuration. It has a speed limit of 50 km/hr with on-street parking available on both sides of the street. The road connects to Captain Cook Drive via a roundabout controlled intersection.



Figure 2: Site and Road Hierarchy

3.3 Existing Traffic Conditions

Traffic volume data was collected along Captain Cook Drive from the 16th of June 2017 to the 22nd of June 2017. The counter was placed directly opposite the site frontage on Captain Cook Drive, monitoring hourly traffic volumes and vehicle classifications. The following information was gathered across the survey period and produced the following results:

- The Annual Average Daily Traffic (AADT) volume count is 8,611 vehicles and of this total, 8.1% are classified as 'heavy vehicles'.
- The AM peak of Captain Cook Drive occurred between 6 – 7 AM and the survey collated a total of 382 veh/hr (northbound) and 253 vehicles heading (southbound) and;
- The PM peak (3 PM – 4 PM) comprised of 338 vehicles travelling northbound and 409 vehicles travelling southbound.

It should also be noted that during the road network peak hours between 7 AM – 9 AM and between 4 PM – 6PM, Captain Cook Drive generated:

- A peak two-way flow of 581 vehicles between 8 AM – 9 AM and;
- A peak two-way flow of 717 vehicles between 4 PM – 5 PM

Figure 3: Captain Cook Drive – Volume Count Summary provides a graphical representation of the volumetric data collected across the week period on Captain Cook Drive.

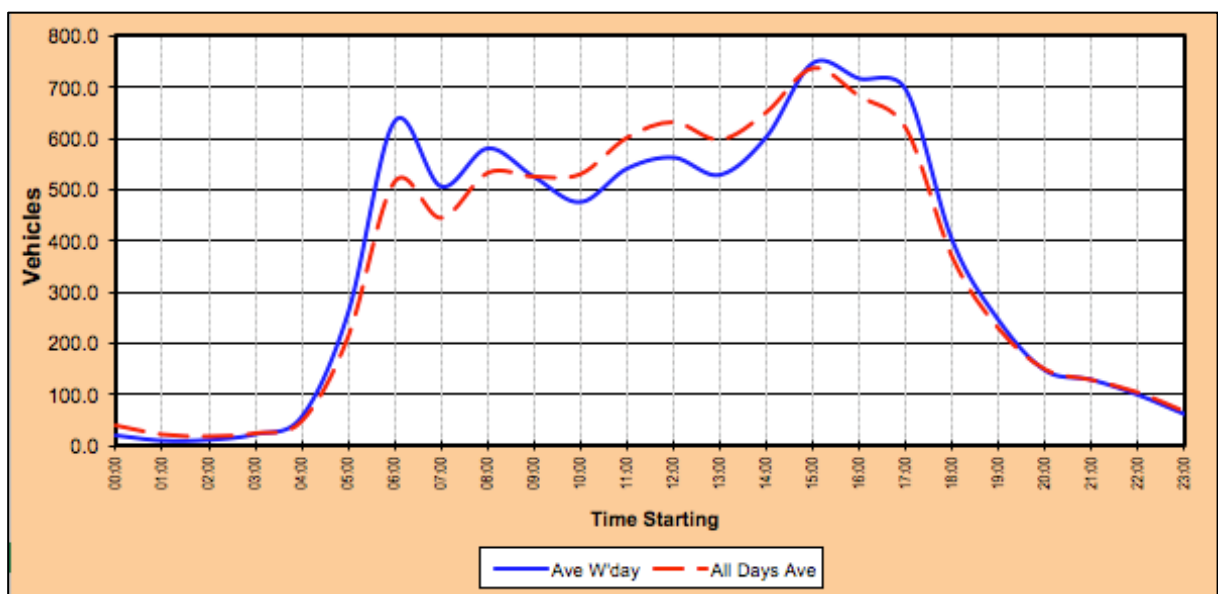


Figure 3: Captain Cook Drive – Volume Count Summary

3.4 Dicker Data Warehouse Existing Traffic Generation

The existing Dicker Data warehouse is located at 230 Captain Cook Drive, Kurnell, to the direct north-east of the site. Operational traffic counts were collated for this existing development using tube counters installed across the access driveway between 16th June 2017 to 22nd June 2017. The Proposal intends to accommodate all Dicker Data future operations and therefore is highly relevant to this TIA assessment.

The peak traffic generation of the surveyed site was observed to be:

- 93 vehicles between 8 AM – 9 AM with 6% of the total classified as 'heavy vehicles'
- 99 vehicles between 5 PM – 6 PM with 3% of the total classified as 'heavy vehicles';

Figure 4: Existing Dicker Data Access Driveway - Volume Count Summary provides a graphical representation of the site's average traffic generation throughout a duration of a day. As expected, the workplace generates peak traffic demands between 7-9AM and 4-6PM.

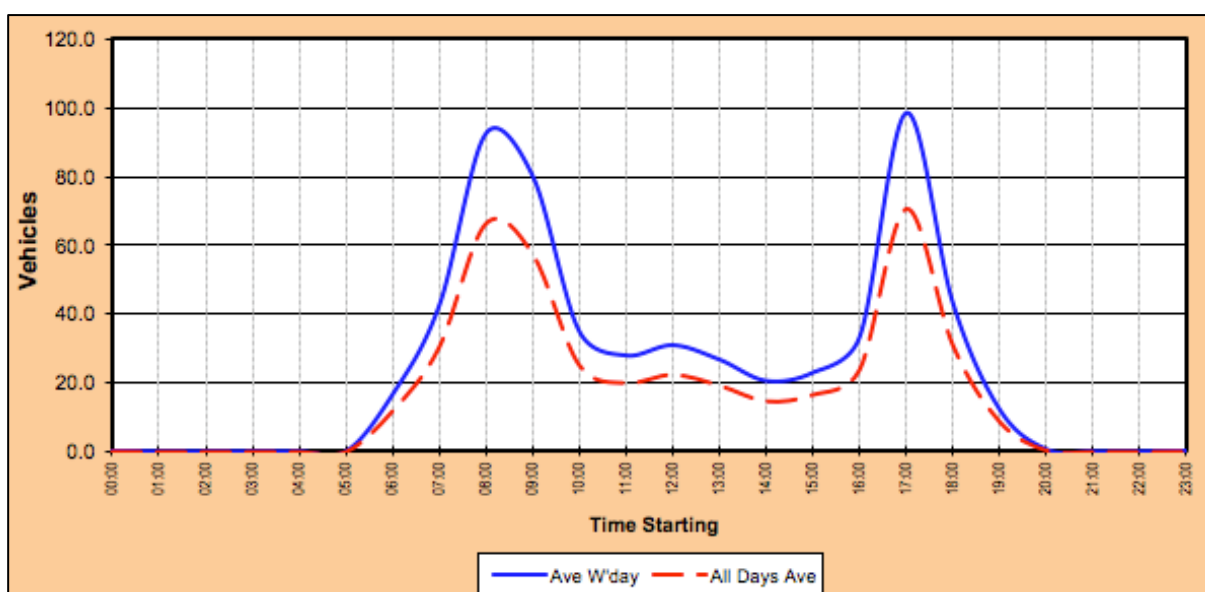


Figure 4: Existing Dicker Data Access Driveway - Volume Count Summary

4 Public Transport, Cycling and Pedestrian Access

The Site is serviced by public bus transport infrastructure. The key bus services local to the Site are presented in **Figure 6: Public Transport Network** and summarised below.

4.1 Bus Services

Having regard to the standard bus travel, the Integrated Public Transport Service Planning Guidelines state that bus services influence the travel mode choices of sites within 400 metres (approximately 5 minutes) of a bus stop. The Site is serviced by two bus stops within 400 walking distance of the Site at the Site's street frontage as shown in Figure 6; these include:

- Bus service 987 which provides connections between Kurnell and Cronulla Station with approximately 30 minutes interval during the peak hours and hourly frequencies throughout the day.

4.2 Existing Pedestrian Accessibility

Pedestrian access is not provided along Captain Cook Drive. No pedestrian footpaths have been constructed to assist pedestrian movements within the Site's proximity.

4.3 Existing Cycle Routes

The Site is well serviced by cycling facilities and routes provided within the proximity of the development. With reference to **Figure 5: Existing Bicycle Network**, dedicated bicycle paths are provided along Captain Cook Drive on both sides of the road. This continuous and dedicated bike path provides access to Cronulla and Caringbah. An extensive bicycle network has been proposed to the west of the site which will link the dedicated bicycle path along Captain Cook Drive to a vast system of bicycle paths in the Sutherland Shire Council area.

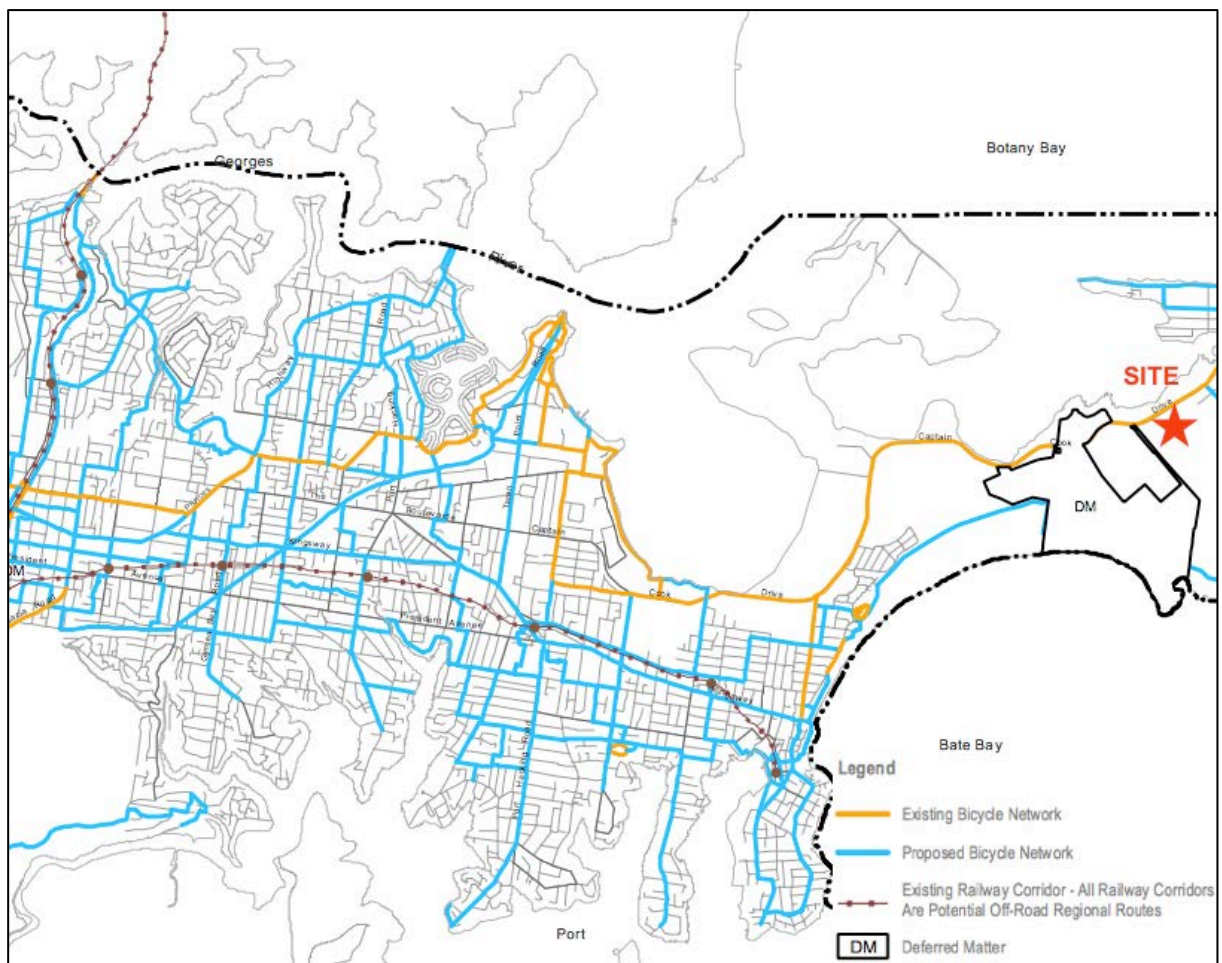


Figure 5: Existing Bicycle Network

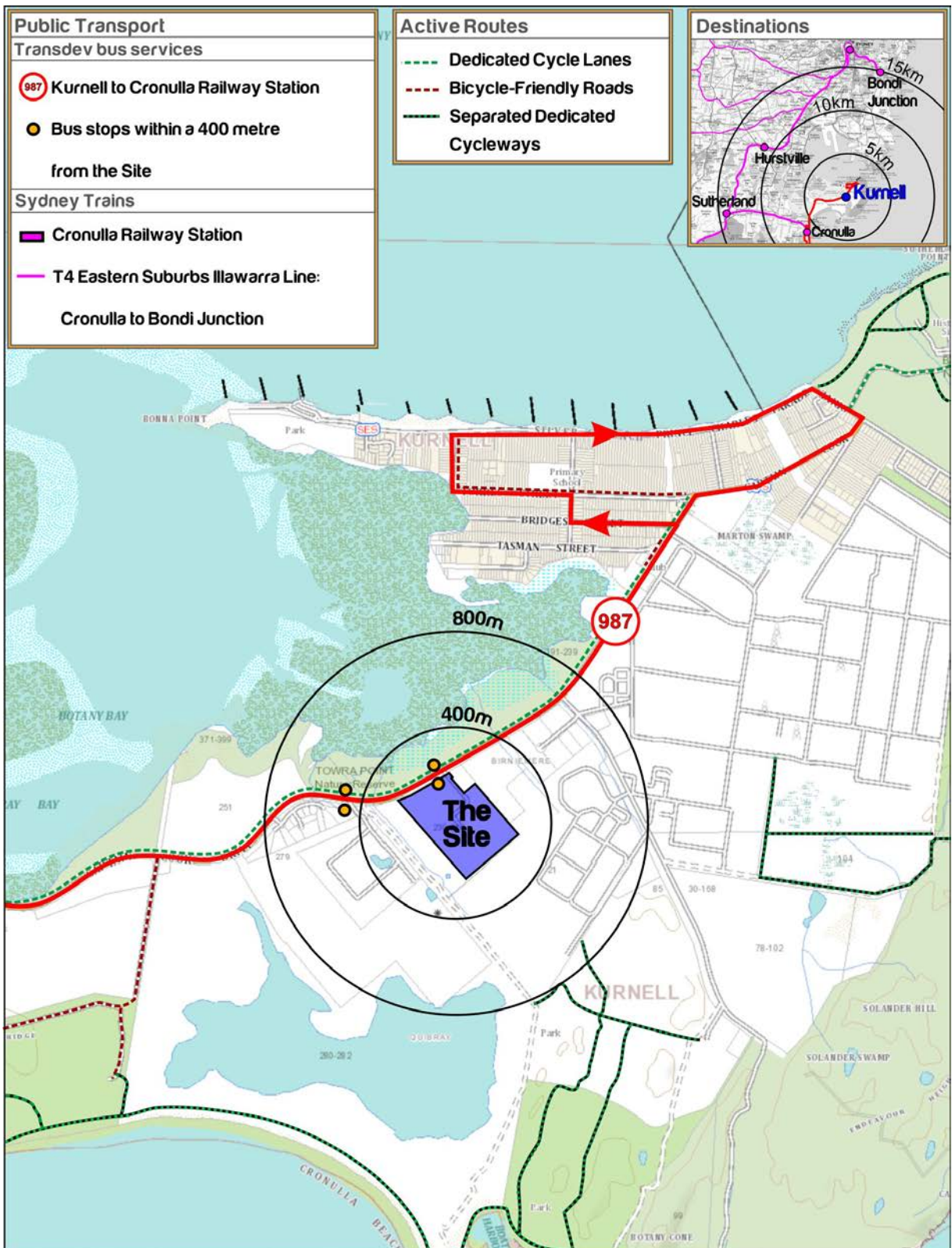


Figure 6: Public Transport Network

4.4 Mode Share

Journey to Work (JTW) data provided by the Bureau of Transport Statistics (BTS) of employee mode share for Zone 2913 is shown in **Figure 7: Journey to Work Data of Employee Mode Share**. The data indicates that approximately 86% of employees travel to work via private vehicle transport with minimal usage of non-vehicle alternatives.

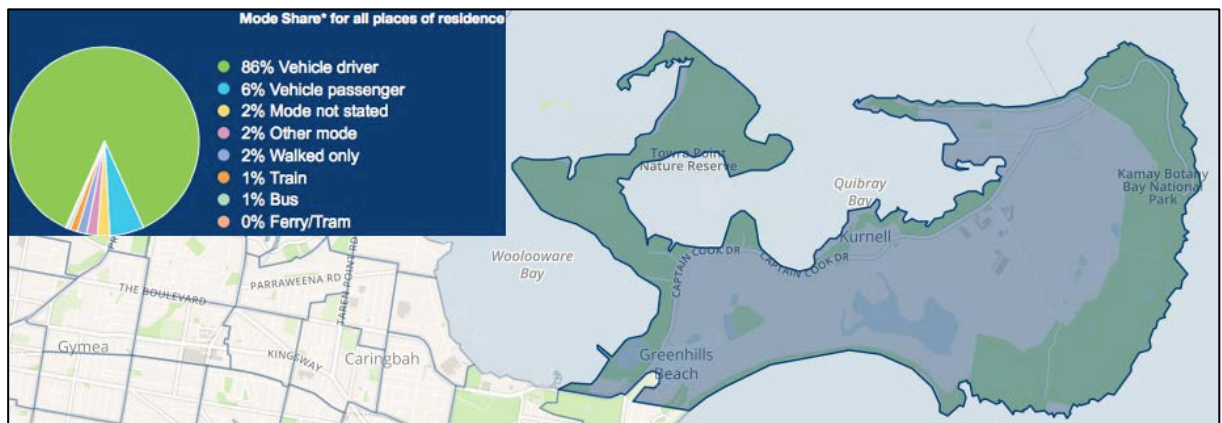


Figure 7: Journey to Work Data of Employee Mode Share

5 Parking & Servicing Requirements

5.1 Car Parking Requirements – DCP Rates

Parking for the development has been assessed in accordance with Sutherland Shire Council DCP 2015. DCP Chapter 28 – IN1 General Industrial Zone relates to the locality of the Site. Council's DCP adopts the following car parking rates for warehouses and business premises (offices) for IN1 – General Industrial Zone that supersedes the general Council parking controls.

Table 2: Council Parking Rates

Land Use	Parking Rate
Business Premises (Offices and amenities)	1 spaces per 45 m ² GFA
Warehouse	1 space per 300 m ² GFA

The corresponding parking requirements for full development of the site are provided in **Table 3**.

Table 3: Car Parking Rates

Land Use	GFA (m ²)	Parking Requirements
Office	5,950	132
Amenities	925	21
Warehouse	39,485	132
Stage 1 & 2 Total	-	285

Application of Council's parking rates to the development yield results in a parking requirement of 285 car parking spaces.

5.2 Car Parking Requirements – First Principle Parking Assessment

A first principle assessment has been undertaken to ensure that Council minimum controls would satisfy the actual parking demand of the Proposal. As advised, the future Stage 1 and 2 developments could potentially accommodate 448 office employees and 100 warehouse employees. Therefore, a combined total of 548 employees are expected to be present at the warehouse and office. This known operational data provided by the end user (Dicker Data) represents the workforce across a typical weekday on site.

Based on existing Journey-to-Work data, 86% of employees in Travel Zone 2913 commute the workplace via private vehicle (Section 4.4). However, as discussed later in Section 8, the Sustainable Travel Plan (STP) will seek to reduce private car usage in line with government policy. The target mode

share for private vehicle driver is 68.6% with 11.7% of staff being car passengers. This mode share acknowledges that private vehicle would continue to represent the primary travel mode whilst considering the obvious site constraints. Analysis indicates that this is effectively 1.17 persons per private vehicle. This is comparable with RMS Guide's data which detailed that industrial workers' private vehicles have an average occupancy of 1.26 persons.

Applying the 68.6% private vehicle rate to a total of 548 staff equates to 376 spaces. As such, it is recommended that 376 employee spaces are provided along with 10 visitor spaces and 4 accessibility spaces to cater for the warehouse and office parking demands. Therefore, a total of 390 spaces are proposed to meet the projected private vehicle demands of the development.

5.3 Parking Summary

Application of Council's nominal parking controls for the industrial development theoretically requires 285 parking spaces. However, based on the known operational employee demands, a first principle assessment has been undertaken to estimate the peak parking requirement, resulting in a parking targeted demand of 390 parking spaces. Therefore, the Proposal will provide 390 spaces to meet these future parking demands (inclusive of visitor and disabled parking).

5.4 Other Parking Requirements

5.4.1 Bicycle Parking

Council's DCP Chapter 28 Part 9.2.5 requires bicycle spaces to be provided at the following rates for developments within the IN1 General Industrial Zone:

- 1 bicycle parking space per 10 car parking spaces for the first 200 car spaces and then,
- 1 bicycle parking space per 20 car parking spaces thereafter

Application of the above rates to the proposed 390 car spaces, generates a requirement for 30 bicycle spaces. In response, 30 bicycle parking is provided.

5.4.2 Motorcycle Parking

Sutherland Shire Council's DCP Chapter 36 requires motorcycle parking to be provided at the following rates:

- 1 motorcycle space for every 25 car parking spaces or part thereof

With 390 parking spaces, 16 motorcycle parking spaces are required. The motorcycle parking provision of 18 motorcycle spaces is superior than the required Council's DCP spaces.

5.4.3 Accessible Parking

Sutherland Shire Council's DCP requires accessible parking to be provided at the following rate as per the Building Code of Australia (BCA) guidelines:

- 1 space for every 100 car parking spaces or part thereof for a Class 5 and 7b building

The development includes 4 accessible parking spaces in full compliance. The accessible visitor space is located close to the Office and Warehouse's main entrance.

5.5 Servicing and Waste Collection

The service area has been designed to accommodate up to 12 trucks by providing 11 loading bays for ten 19 metre Articulated Vehicle (AV) trucks and one 12.5 metre Heavy Rigid Vehicle (HRV) truck. These docks have been tested with swept paths and meet the minimum requirements of AS2890.2.

On the basis that a waste collection vehicle would be unlikely to exceed a 12.5m Heavy Rigid Vehicle, the development is capable of accommodating all servicing demands on site and at the waste bin collection area. It is likely that service vehicles would arrive outside of peak hours.

The waste management strategy has been prepared and completed separately by the project team waste management consultant.

6 Traffic Assessment

6.1 Operational Traffic Generation – RMS Rates

The traffic impacts of the proposed development have been assessed having regard for the RMS Guide to Traffic Generation Developments (2002) and the RMS Guide to Traffic Generating Development TDT 2013/04

In this regard, the current application seeks approval for the construction of 5,950 m² of Office GFA, 925 m² of amenities GFA and 39,485 m² of warehouse floor space. Accordingly, the following generation rates were adopted for the relevant land uses:

- 0.5 peak hour trips per 100 m² of warehouse area.
- 1.60 AM peak hour trips per 100 m² of office GFA.
- 1.20 PM peak hour trips per 100 m² of office GFA.

Application of RMS trip rates to proposed development yield results in a forecast 308 AM peak hour trips and 281 PM peak hour trips, consisting of:

- 198 peak hour trips associated with the warehouse.
- 110 AM peak hour trips associated with the office.
- 83 PM peak hour trips associated with the office.

Based on the survey results retrieved at the existing Dicker Data Warehouse's driveway of 230 Captain Cook Drive, the data revealed approximately a 90:10 split of light vehicles and heavy vehicles during the peak hours 8AM to 10AM.

Approximately 10% of the warehouse peak hour trips are designated as heavy vehicle traffic as indicated by the survey at the existing Dicker Data Warehouse. Thus, the following **Table 4** is produced below:

Table 4: Traffic Generation Vehicle Splits

Vehicle Type	AM Peak	PM Peak
Heavy Vehicle	31	28
Light Vehicle	277	253
Total	308	281

Surveys undertaken across the existing Dicker Data driveway revealed that a 2-hour traffic AM and PM peak exists for the Site. For an average weekday, there was a peak hourly volume of:

- 93 morning peak hour trips (84 arrival trips, 9 departure trips).
- 99 evening peak hour trips (3 arrival trips, 96 departure trips).

This is approximately a 90:10 split of traffic movements during the morning and a 97:3 directional split during the evening.

In this regard, the development's traffic generation, assuming a general 90:10 split of traffic movements in the direction of peak flows, is as follows:

- 309 morning peak hour trips (278 arrival trips, 31 departure trips).
- 281 evening peak hour trips (28 arrival trips, 253 departures trips).

The daily generation of vehicle trips has been assessed for the proposed development utilising the RMS rates for daily office and warehouse trips. The following **Table 5** showcases the estimated volume of vehicles generated daily by the development:

Table 5: Daily Traffic Generation

Land Use	Area (m ²)	Rate	Daily Generation (vpd)
Office	6,875	11 daily trips / 100m ² GFA	756
Warehouse	39,485	4 daily trips / 100m ² GFA	1,579
Total	-	-	2,335

6.2 Operational Traffic Generation – First Principle Assessment

Ason Group has undertaken a First Principle Assessment of the proposed development's traffic generation. The First Principle Assessment is proposed to provide a more realistic scenario for the development's traffic generation.

The tube counts across the existing Dicker Data driveway indicated that during an average weekday, the peak hour vehicle traffic volume was:

- 93 trips during the morning peak (86 private vehicles and 6 heavy vehicles)
- 99 trips during the evening peak (96 private vehicles and 3 heavy vehicles)

As discussed in section 5.2, applying the 68.6% private vehicle rate on the 548 staff members would result in approximately 376 light vehicles being generated during a typical weekday. A trip generation profile of the existing Dicker Data facility was developed to determine the appropriate traffic generation during the road network's AM and PM peaks.

The new facility would host approximately similar office to warehouse staff ratios, 4:1, to the existing Dicker Data facility. Therefore, applying the trip generation profile of the similar development to the 376 vehicles would result in the following trip generation distribution across a typical weekday.

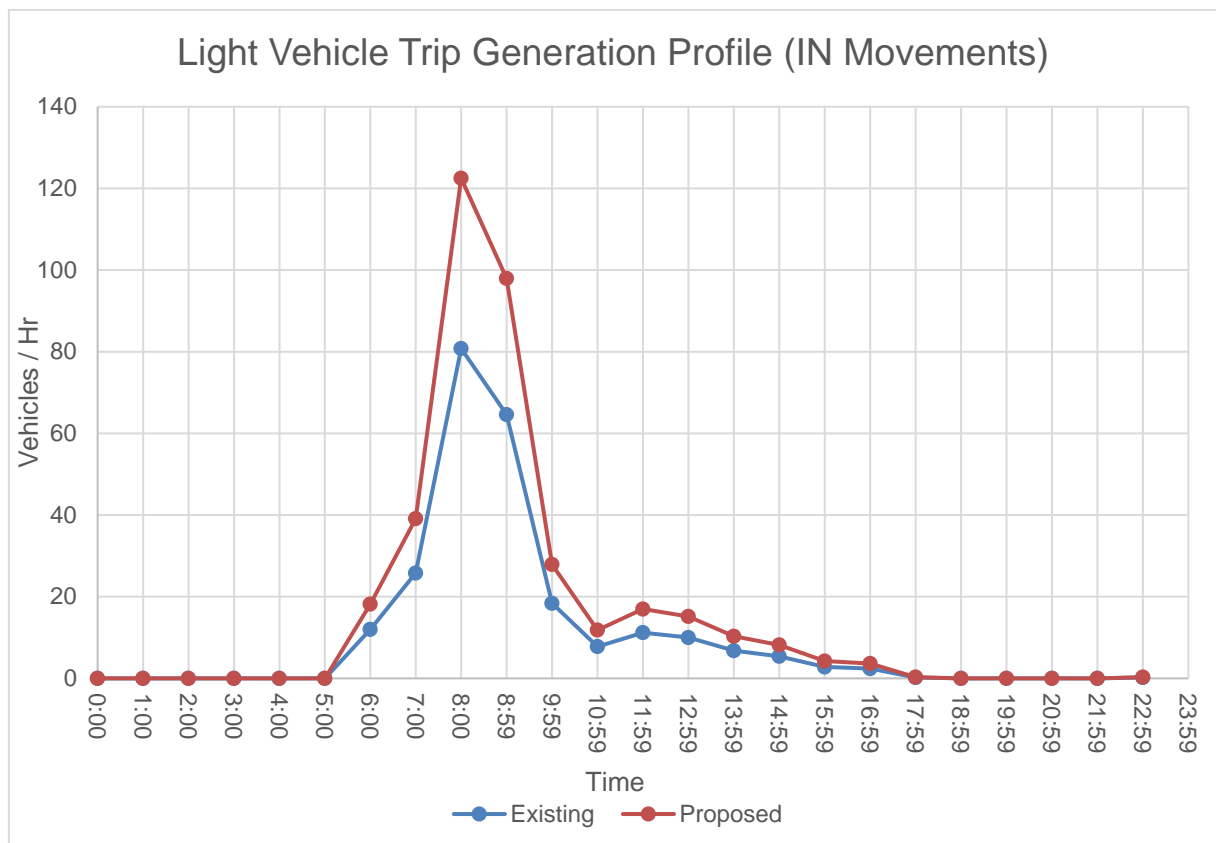


Figure 8: Light Vehicle Trip Generation Profile (IN Movements)

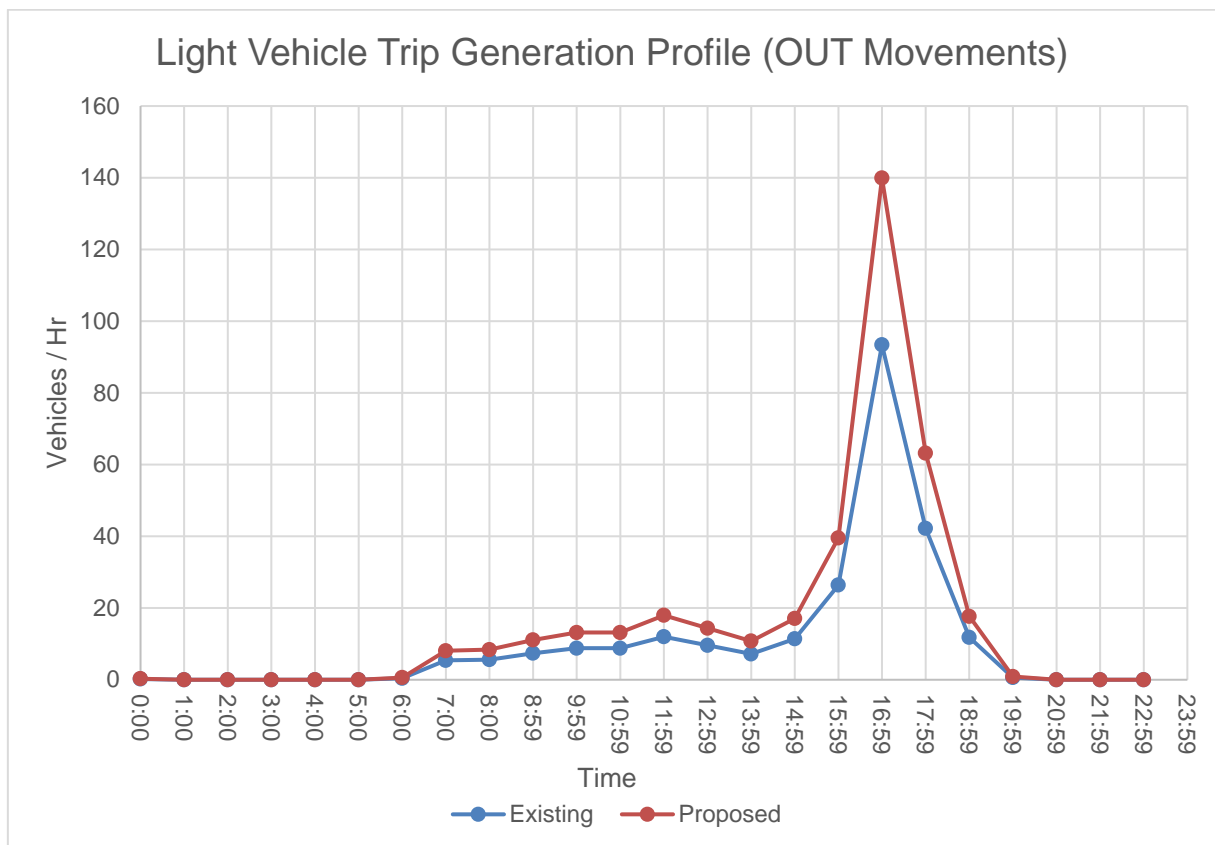


Figure 9: Light Vehicle Trip Generation Profile (OUT Movements)

Application of the trip generation derived from the surveyed driveway of the similar existing Dicker Data warehouse revealed a peak traffic generation between 8-9 AM and 5-6 PM with the following trip generation distribution below:

- 131 light vehicles AM peak hour trips (123 arrival trips, 8 departure trips).
- 144 light vehicle PM peak hour trips (4 arrival trips, 140 departure trips).

Utilising the existing heavy vehicle trip generation of 86 trips and the existing warehouse GFA of 14,348 m², a daily trip rate of 0.6 heavy vehicle daily trips / 100 m² warehouse GFA can be established. Applying this rate to the proposed warehouse GFA of 39,680 m², it can be estimated that 238 heavy vehicle daily trips would occur during a typical weekday.

Applying this over a trip generation profile for heavy vehicles, the following graphs details the estimated heavy vehicle generation:

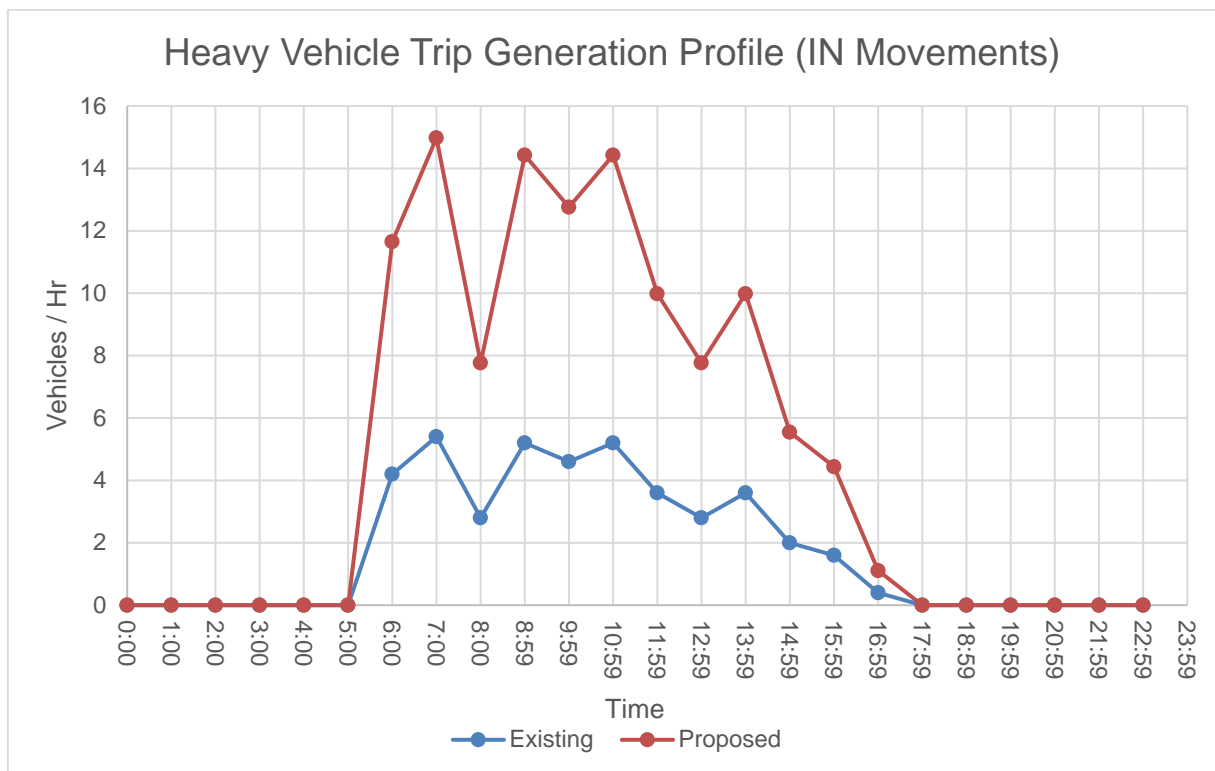


Figure 10: Heavy Vehicle Trip Generation Profile (IN Movements)

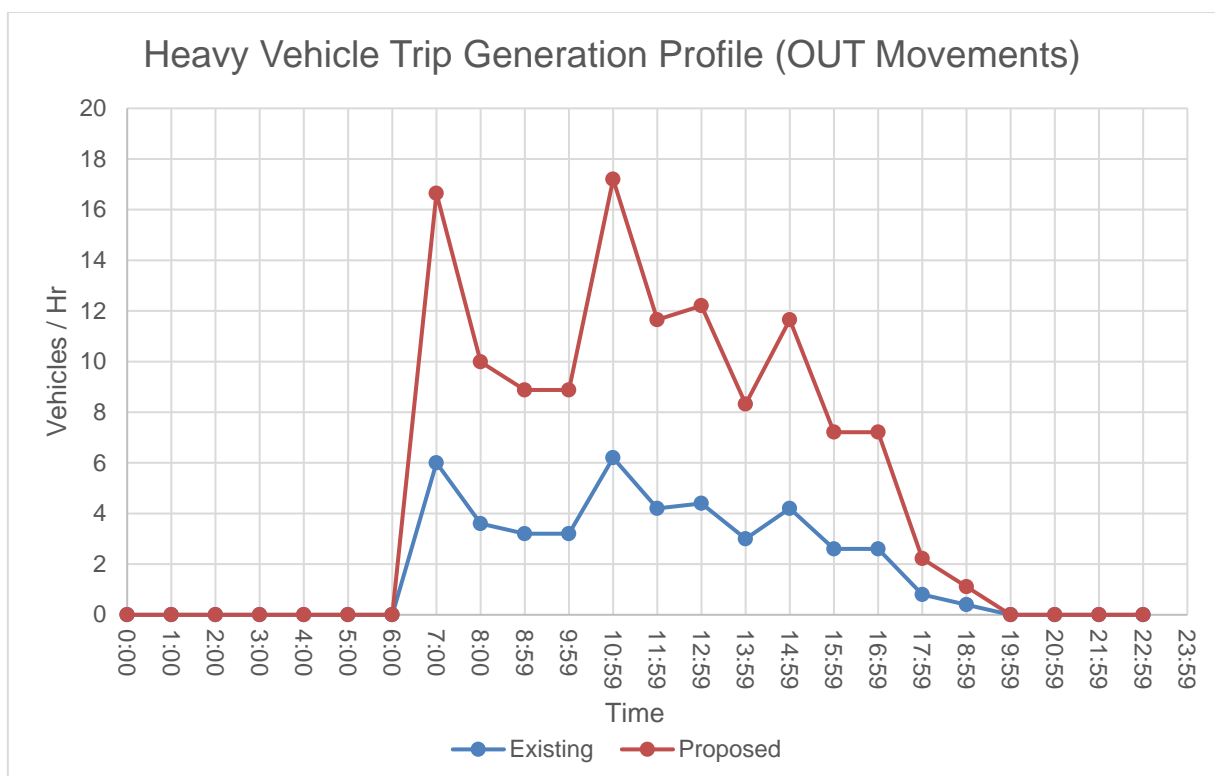


Figure 11: Heavy Vehicle Trip Generation Profile (OUT Movements)

The peak period heavy vehicle volumes are therefore projected to generate:

- 18 Truck AM peak hour trips (8 arrival trips, 10 departure trips).
- 8 Truck PM peak hour trips (1 arrival trip, 7 departure trips).

Combining the heavy and light vehicle movements will result in a total development peak period traffic generation of:

- 149 AM peak hour trips
- 152 PM peak hour trips

This trip generation has been adopted to assess the traffic impacts along Captain Cook Drive which has been assessed further below.

6.3 Daily Traffic Generation – First Principle Assessment

It is understood that the existing Dicker Data facility at 230 Captain Cook Drive has the following GFA and employee yields:

- 2,713 m² Office GFA
 - 234 office staff
- 14,348 m² Warehouse GFA
 - 57 warehouse workers

Over the course of a typical weekday, the existing Dicker Data facility generated 585 vehicles trips, of which 14.7% were heavy vehicles. Therefore, 499 trips were made by light vehicles and 86 trips were made by heavy vehicles.

The previous Section 5.2 indicates that approximately 376 staff members would drive their own private vehicle to work. Therefore, it can be assumed that there would be 376 movements in and 376 movements out of the development, resulting in 752 daily vehicle trips. The ten visitor parking spaces and accessibility parking would occasionally generate visitor trips. Thus, at full occupancy of the car park, a peak of 780 light vehicles a day would be generated.

Utilising the existing heavy vehicle trip generation of 86 trips and the existing warehouse GFA of 14,348 m², a daily trip rate of 0.6 heavy vehicle daily trips / 100 m² warehouse GFA can be established. Applying this rate to the proposed warehouse GFA of 39,680 m², it can be estimated that 238 heavy vehicle daily trips would occur during a typical weekday.

Therefore, a total of 1,018 daily trips (780 light vehicles trips and 238 heavy vehicle trips) would occur for the proposed development during full occupancy of the carpark and loading areas.

6.4 Approved Development – Considered Cumulative Impacts

Sutherland Shire Council has requested that the cumulative traffic impact assessment should include the traffic generation of the approved residential subdivision, Shearwater Landing, at North Cronulla. Traffic generated from this approved residential area would be able access this precinct via the Trinity Street and Captain Cook Drive roundabout intersection. An intersection survey of this roundabout was undertaken on the 8th of March 2018 and was compared with the 2012 Traffic Study of the Shearwater Landing residential masterplan undertaken by Colston Budd Hunt & Kafes Pty Ltd.

The traffic volume peaks of 8 AM – 9 AM and 5 PM – 6 PM were considered for the analysis of this intersection as these times would coincide with the peak traffic generation of the proposed Dicker Data Site. It is noted that the afternoon peak of 3 PM – 4 PM would technically carry the highest traffic volumes at the roundabout however the 5 PM – 6 PM peak only differs by 86 vehicles.

A comparison of the surveyed data of the intersection and the projected traffic volumes (without the completed Shearwater Landing residential subdivision) indicate that the estimated traffic volumes closely align to the 2018 surveyed volume, with the exception of notable growth in the northbound through traffic. Currently, SIDRA Analysis indicates that the intersection is operating at LoS A. The following figures compare the 2018 survey data with the 2012 projected turn counts without the residential development traffic generation.

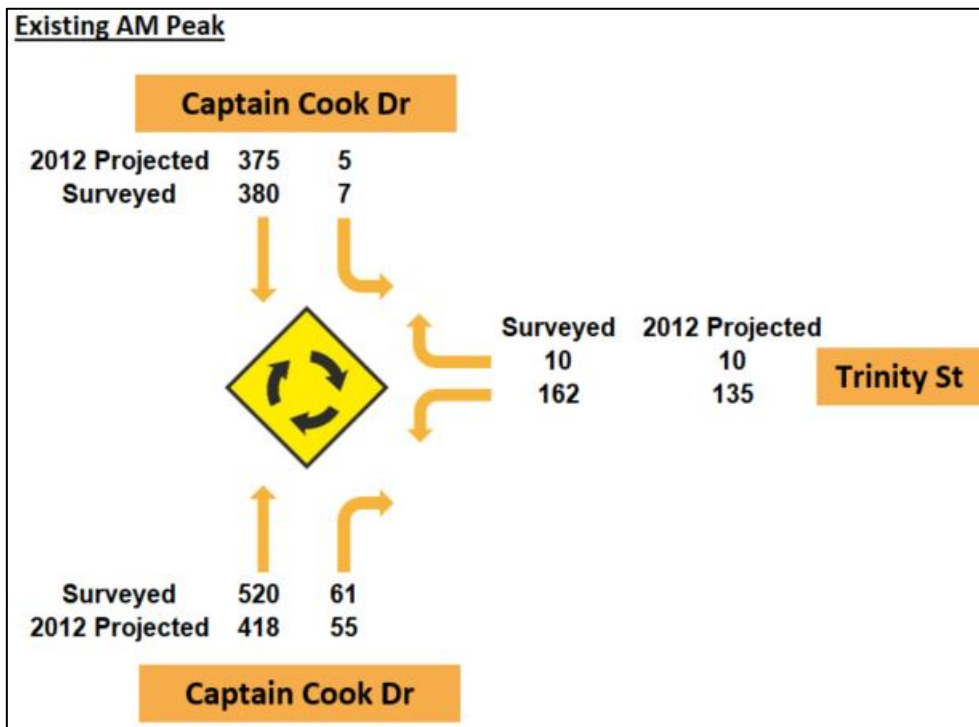


Figure 12: Existing AM Peak Traffic Volumes at Trinity Street / Captain Cook Drive Roundabout

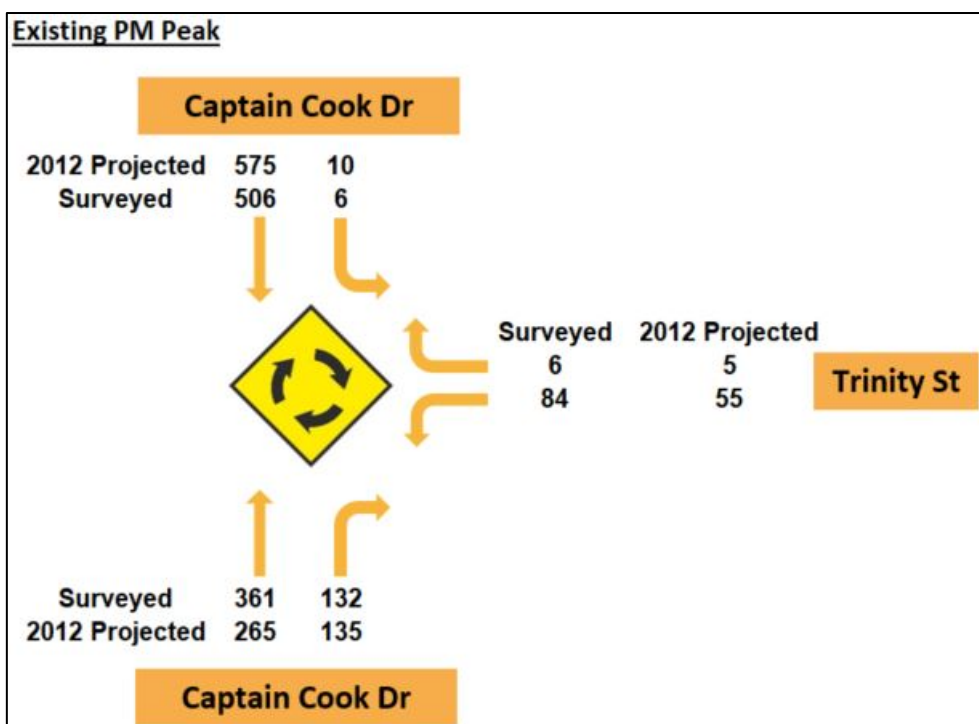


Figure 13: Existing PM Peak Traffic Volumes at Trinity Street / Captain Cook Drive Roundabout

The following figure details the approved future additional traffic volumes from Shearwater Landing which would enter this roundabout during the morning and afternoon peaks.

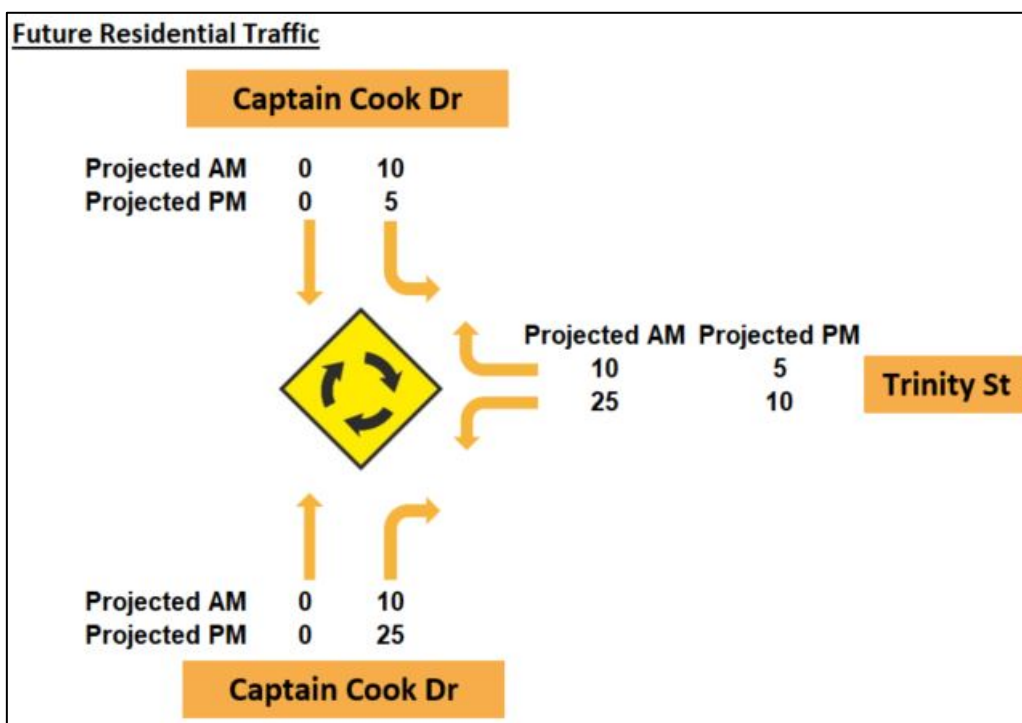


Figure 14: Future Residential Traffic Volumes at Trinity Street / Captain Cook Drive Roundabout

The cumulative impacts of this approved development alongside the proposed warehouse at 238-258 Captain Cook Drive are further accessed in Section 6.7.

6.5 Cycling and Pedestrian Trips

It is unlikely that the proposed development would generate any pedestrian trips due to the lack of the pedestrian accessibility at the Site's remote location. During Pre SSDA consultation with Council, bus stop upgrades and the provision of pedestrian refuge along Captain Cook Drive was identified for consideration. There is limited reliance upon public transport for the existing site. In addition, as part of the Sustainable Travel Plan for the future development, a shuttle bus service is proposed during peak periods so that employees could be transported from the nearby transport hubs with all pick up and set down to occur on site. This is the preferred sustainable strategy for the site and represents a reasonable and safer outcome for the development.

However, it is expected that cycling trips would increase with the implementation of the Sustainable Travel Plan. The targeted cycling growth would be 6% of all trips to the Site as discussed in Section 8.5. This would equate to approximately 33 cycling trips.

6.6 Traffic Impacts

Peak hour traffic generated by the Proposal was loaded onto Captain Cook Drive during the surrounding road network's peak hour traffic during 8AM – 9AM and 4PM – 5PM. The Proposal will result in approximately 2 additional vehicle movement every 1 minute during the morning and evening peak periods. The following **Table 6** provides a recommended baseline for assessment as per the RMS Guide.

Table 6: RMS Level of Service Summary

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way and Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	More than 70	Unsatisfactory and requires additional capacity.	Unsatisfactory and requires other control mode or major treatment.

A SIDRA assessment of the access driveways on the Captain Cook Drive and the Trinity Street / Captain Cook Drive roundabout has been undertaken as requested by Council and the results of this analysis are summarised in **Table 7**. SIDRA analysis indicates that all critical intersections will continue to operate at a Level of Service A with the future developments' traffic generation being loaded onto the road network.

Table 7: SIDRA Scenarios

Intersection	Scenario	Period	Average Delay (s)	Level of Service
Site Access 1: Truck & Car Access / Captain Cook Drive	Future	AM	13.5	A
		PM	13.2	A
Site Access 2: Car Exit / Captain Cook Drive	Future	AM	9.8	A
		PM	10.1	A
Trinity Street / Captain Cook Drive	Existing	AM	9.4	A
		PM	9.3	A
	Future	AM	9.4	A
		PM	9.3	A

7 Design Commentary

7.1 Relevant Design Standards

The site access, car park and loading areas have been designed to comply with the following relevant Australian Standards:

- AS2890.1 for car parking areas;
- AS2890.2 for commercial vehicle loading areas;
- AS2890.6 for accessible (disabled) parking.

7.2 Vehicle Site Access

The commercial (heavy) vehicle facilities of the development have been designed having regard for the operational requirements of the future tenant and the requirements of AS2890.2. In this regard the following is considered noteworthy:

- The internal design of the service area has been undertaken in accordance with the requirements of AS2890.2 for the maximum length vehicle accessing the site being a B-Double of 26 metres in length,
- A heavy vehicle driveway designed in accordance with AS2890.2 for AVs and HRVs, based on swept path analysis.
- Minimum sight distances requirements for heavy vehicles have been provided.
- All service and commercial vehicles can enter and exit the site in a forward direction.

Swept path analysis is provided on the plan attached at **Appendix C**, which demonstrate compliance with relevant sections of AS2890.2.

7.3 Lane Geometry of the Site Access and Captain Cook Drive Intersection

The proposed development intends to construct two driveways along Captain Cook Drive, a truck and car access at the eastern site boundary and a car exit at the western site boundary. The existing truck access driveway intersection with Captain Cook Drive currently accommodates the following acceleration lane:

- An 85m long (including taper) acceleration lane upon a southbound departure from the Site.

Discussions held with Sutherland Council indicated that acceleration lanes would be required for each access location. It was highlighted by Council that a single consolidated access would be preferred,

however, best practice design principles are a key consideration and seek to separate light and heavy vehicle access where possible. TTW Civil Engineers has developed the concept design for the proposed acceleration lanes have led to the proposed acceleration lane with:

- A 165m (including taper) acceleration lane from the Site's Truck Access
- A 100m (including taper) acceleration lane from the Car Park Exit Only

Reference should be made to **Appendix D** for further information regarding the proposed acceleration lane design and implementation.

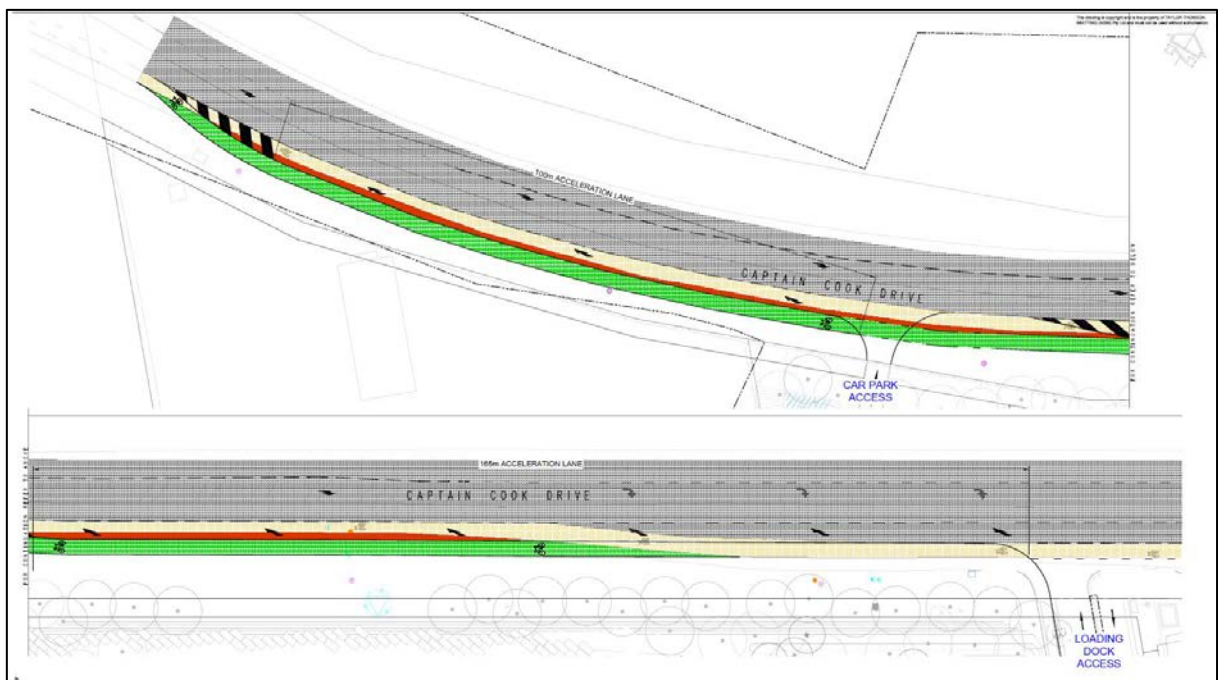


Figure 15: Proposed Acceleration Lane Design

7.4 Carpark Design Summary

A detailed review of the car park and related areas has been undertaken and the following characteristics are noteworthy:

- The main car park aisle has been designed with a minimum clear width of 5.8m.
- All resident parking spaces are designed in accordance with a User Class 1A and are to be provided with a minimum space length of 5.4m, a minimum width of 2.4m.
- Dead-end aisles are provided with the required 1.0m aisle extension in accordance with Figure 2.3 of AS2890.1.

- All disabled and adaptable parking spaces are to be provided in accordance with AS2890.6, which requires a space with a clear width of 2.4m and located adjacent to a minimum shared area of 2.4m.

It is expected that any detailed construction drawings in relation to any modified areas of the car park or site access would comply with these Standards. Furthermore, compliance with the above Standards would be expected to form a standard condition of consent to any development approval.

8 Sustainable Travel Plan

8.1 Purpose

This Sustainable Travel Plan (STP) is intended to develop a package of site specific measures to promote and maximise the use of sustainable travel modes, including walking, cycling, public transport and car sharing. This plan sets out objectives and strategies to address the SEARs:

“Measures to promote travel choices that support sustainable travel, such as a location-specific sustainable travel plan, provision of end-of-trip facilities, green travel plans and wayfinding strategies”

The primary objectives of the STP will be to:

- Reduce the environmental footprint of the proposed development
- Promote the use of ‘active transport’ modes, particularly for short-medium distance journeys
- Reduce reliance on the use of private vehicle for all journeys
- Encourage a healthier, happier and more active social culture.

Having regard for the above, this STP would seek to adopt the movement hierarchy shown in with priority given to ‘active transport’.



Figure 16: Movement Hierarchy

This section reviews existing transport choices and sets targets so that the effective implementation of the STP can be assessed. These targets are to be realistic but ambitious enough to initiate substantive behavioural change to achieve the desired outcomes. The STP shall be reviewed regularly as part of an ongoing review to ensure it remains relevant and reflective of current conditions.

8.2 Proposed Site Facilities and Staff

The development seeks to provide the following end-of-trip facilities and will contain the following approximate staff headcounts:

Table 8: Development Details

Facilities	TOTAL
Staff Parking Spaces	376
Accessible Parking Spaces	4
Visitor Parking Spaces	10
Motorcycle Parking Spaces	18
Bicycle Parking Spaces	30
Staff	548

8.3 Travel Mode Share Analysis

The existing travel patterns of employees within the surrounding locality was surveyed within the 2011 Census and presented in the Journey to Work data provided by the Bureau of Transport Statistics. The data has been presented in **Figure 17: Journey to Work Mode Share for Travel Zones 2913**. The modal share data shows that a majority of the commuter trips are undertaken as a vehicle driver (86%) with approximately 6% of commuter trips undertaken by as a vehicle passenger.

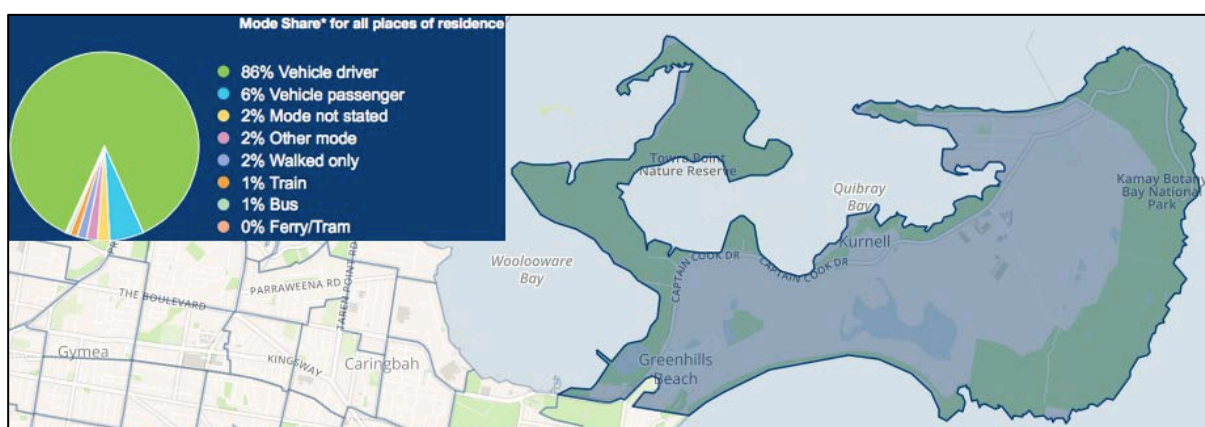


Figure 17: Journey to Work Mode Share

The mode share for the top 5 origin locations for persons employed with the selected Travel Zone are summarised in **Table 9** below. It is evident that the origin for persons employed with the locality is distributed towards the east of the subject Site.

Table 9: Mode of Travel by Origin for Employees within Travel Zone

Origin	% Total Trips	Walking	Train	Bus	Car Passenger	Car Driver
Cronulla	43%	3%	1%	1%	4%	84%
Sutherland	18%	0%	0%	0%	4%	93%
Wollongong	4%	0%	0%	0%	13%	83%
Hurstville	4%	0%	0%	0%	8%	85%
Kogarah	4%	0%	5%	0%	15%	75%

It is evident that there are a low proportion of public transport users within the Travel Zone, however the lack of public transport facilities is offset by commuters utilising the opportunity to car pool, most notably Wollongong (13%), Hurstville (8%), and Kogarah (15%).

8.4 Surrounding Public Transport Services

8.4.1 Rail Services

The *Integrated Public Transport Service Planning Guidelines*, Sydney Metropolitan Area (TfNSW, December 2013), states that train services influence the travel mode choices of areas within 800 metres walking distance (approximately 10 minutes) of a train station. It is therefore noteworthy that the Site is not located within 800m of any rail stations.

Cronulla train station is located approximately 6 kilometres to the south-west of the site. Whilst not located within the nominal walking catchment outlined above, commuters can rely on the busway service from Cronulla Train Station to Kurnell.

Table 10: Train Frequencies

Station – Line	Travelling to City	Arriving from City	Total
<i>Cronulla – via T4 Eastern Suburbs & Illawarra Line</i>			
Morning Peak Hour (8 AM – 9 AM)	6	5	10
Off Peak Hour (9 AM – 5 PM)	32	32	64
Afternoon Peak Hour (5 PM – 6 PM)	5	6	10

The above table indicates that Cronulla railway station is well serviced in peak periods with trains arriving approximately every 10 minutes to the City. **Figure 18:** Suburban Rail Network showcases Cronulla Station, located at end of the T4 Eastern Suburbs and Illawarra Line, in relation with the rest of the Sydney Trains Network.

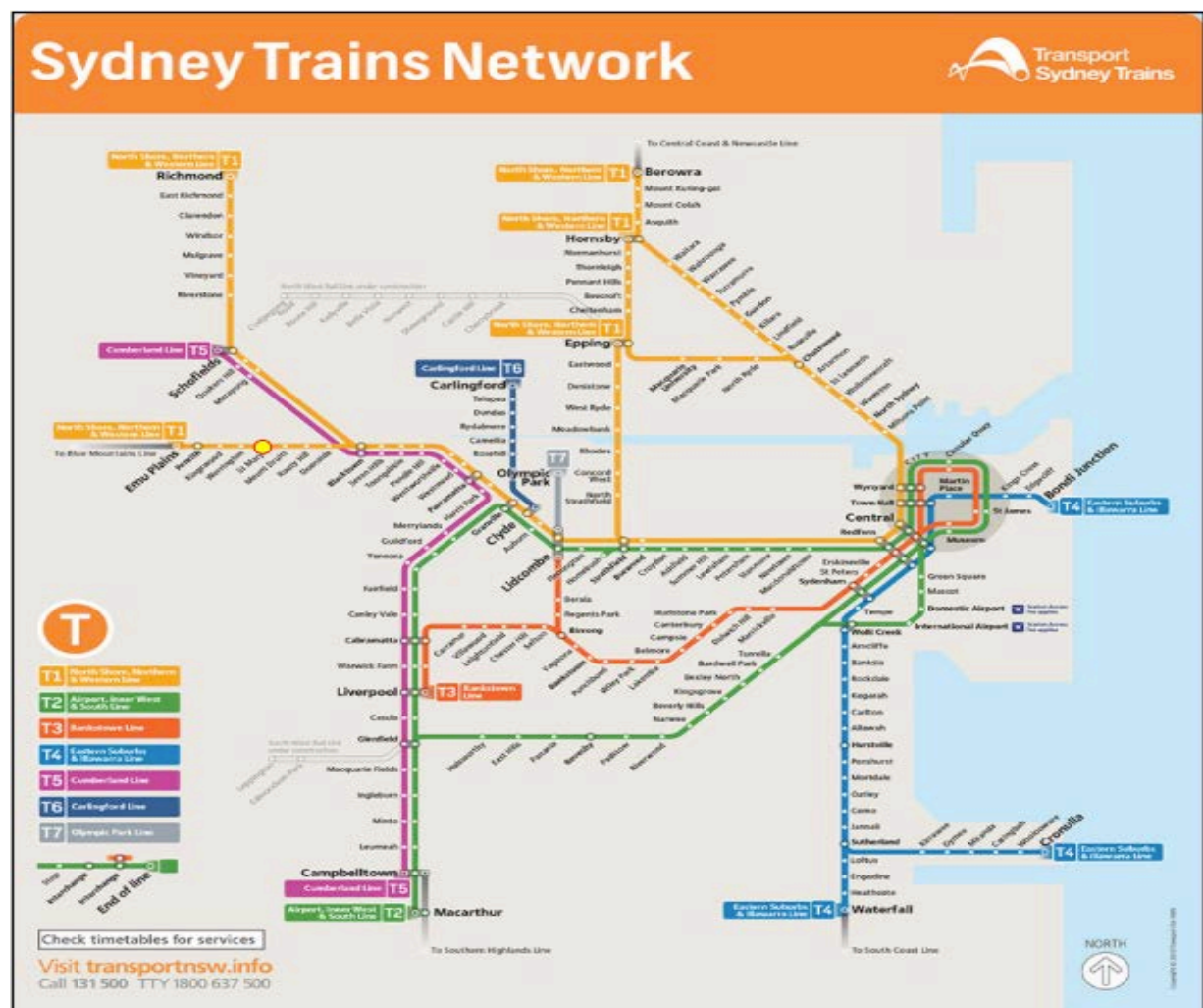


Figure 18: Suburban Rail Network

8.4.2 Bus

With regard to bus travel, the same TfNSW guidelines state that bus services influence the travel mode choices of sites within 400 metres walk (approximately 5 minutes) of a bus stop.

In this regard, the Site lies within the 400 metres radius of the nearest existing bus stops. Bus services available nearby are depicted in **Figure 6: Public Transport Network**. It can be seen that the bus stops within the vicinity of the Site has connections to Cronulla Station. A summary of the single bus route in close proximity to the Site is summarised in below:

- Bus service 987 which provides connections between Kurnell and Cronulla Station with approximately 30 minutes interval during the peak hours and hourly frequencies throughout the day.

Bus stops for this route are available directly on the Site's street frontage of Captain Cook Drive.

8.4.3 Pedestrian and Cycling Network

Although the Site does not have any pedestrian accessibility via pedestrian footpaths in its vicinity, Captain Cook Drive has a dedicated bicycle lane on both direction of the road. This bicycle route connects with the rest of Sutherland Shire's extensive bicycle path network. Additional bicycle paths have been planned by the Sutherland Council to extend the bicycle network's accessibility for the Sutherland Council area. Reference to **Figure 5: Existing Bicycle Network** demonstrates the Site's accessibility to the bicycle network.

8.4.4 Car Share

There are no existing Car Share operators providing vehicles in close proximity to the site.

8.5 Mode Share Targets

With the above public and active transport accessibility in mind, the mode share targets outlined in **Table 11** are proposed.

Table 11: Mode Share Targets

Travel Mode.	Existing	Proposed	Relative Change
Walking	2%	2%	-
Cycling	-	6%	+6%
Train	1%	6%	+5%
Bus	1%	5%	+4%
Car Passenger	6%	12%	+6%
Car Driver	86%	69%	-17%
Other/Mode Not Stated	4%	0%	-4%

The proposed mode share target has been developed by considering the likelihood of increase of each travel mode, with a specific push to encourage cycling and ride sharing between staff members. It is noteworthy to note that industrial workers often have an average vehicle occupancy of 1.26 persons per car as described in the RMS Guide. Therefore, it is noted that the proposed mode increase in the number of car passengers effectively equates to an average vehicle occupancy of 1.17 persons per car which is considered achievable.

Measures and strategies to achieve these targets are discussed in **Section 8.6**.

8.6 Action Plan

The following specific actions have been identified to aid achievement of the targets outlined in Section 8.1. **Table 12** also identifies the body responsible for each action.

Table 12: Recommended Action Plan Measures

Item No.	Action / Description	Responsibility
1. General		
1.1	Establish a Site specific transport committee which is to include (but not limited to) the Travel Plan Coordinator (TPC) and any warehouse staff members designated to manage transport demands for individual tenancies	TPC
1.2	Preparation and maintenance of a Sustainable Travel Plan	TPC
1.3	Provide 'Travel Welcome Pack' for new staff	Business Management
1.4	Include travel demand management as a regular item on the agenda for strata management meetings	TPC
1.5	Allow staff to the flexibility to commute outside peak periods to reduce overall congestion and travel time.	Employers
2. Cycling		
2.1	Promote participation in the National Ride2Work Day activity	TPC / Business Management
2.2	Provide clearly signposted cycle parking within the Site	Business Management / TPC
3. Public Transport		
3.1	Update the STP to reflect changes to any bus routes and service times	TPC
3.2	Liaise with TfNSW to encourage the increase the frequency of Bus Service 987 during the peak hour	TPC
3.3	Provide a peak hour shuttle bus that will transport employees directly to and from the nearest train station (Cronulla Station)	TPC / Business Management
4. Car Share		
4.1	Facilitate engagement between staff with a view to encourage ride sharing for those staff that do require the use of private vehicles	TPC / Business Management

Notes: 1) TPC = Travel Plan Coordinator

A Workplace Travel Plan (WTP) for the development has been prepared and is included in **Appendix E**.

It is also recommended that provision be made for bicycle parking. Additional bicycle parking may be recommended in the future; however, this would be subject to further review as part of the ongoing WTP maintenance which is discussed further below.

To encourage ride sharing between staff (to assist with Item 4.1 identified in Table 11), business management may consider the signposting of desirable parking spaces close to building entrances for use by vehicles with multiple occupants. With 43% of employees originating from Cronulla, it is likely that these cycling and shuttle bus strategies will result in the reduction of private vehicle trips.

8.7 Communications Strategy

8.7.1 Welcome Packs

New staff shall be provided with a 'welcome pack' as part of the on-site induction process which includes the STP and other information in relation to sustainable transport choices. This pack shall include a copy of the STP as well as general information regarding the health and social benefits of active transport and advice on where to seek further information such as links to Sydney Cycleways website.

8.7.2 Accurate Transport Information

In addition to these 'welcome packs', a copy of the STP shall be clearly displayed in communal areas of the site including (but not limited to):

- Staff lunch room for each tenancy
- Lift lobby area and entrances to buildings
- Any marketing material associated with the site, such as websites and newsletters

The STP shall be presented in a form that is reflective of the commitment to achieving positive transport objectives. This may involve provision of a laminated cover or another protective frame. The STP is not to be presented on loose paper.

8.8 Travel Plan Coordinator

A representative from the office shall be designated as the overall Travel Plan Coordinator. This person(s) shall be responsible for:

- Implementation and promotion of the STP actions
- Monitoring the effectiveness of the STP (refer to monitoring requirements outlined in Section 8.9) and ongoing maintenance of the Plan
- Provide advice in relation to transport-related subjects to staff, tenancy management and visitors, as required.
- Liaise with external parties (i.e. Council, public transport and car share operators) in relation to Travel Plan matters.

This role does not necessarily require full-time position; however, it shall be clearly designated among the key responsibilities of the Site management.

8.9 Plan Maintenance

This Plan shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the Travel Plan Coordinator. As a minimum, review of the STP shall occur annually.

Key considerations:

- Update baseline conditions to reflect any changes to the transport environment in the vicinity of the site such as changes to bus services, new cycle routes etc. In this regard, review of the STP may be undertaken on a more frequent basis.
- Track progress against proposed travel mode targets
- Identify any shortfalls and develop an updated action plan to address issues
- Ensure travel modes targets are updated (if necessary) to ensure they are realistic and remain ambitious.

8.10 Travel Mode Audit Requirements

Travel mode surveys may be undertaken to determine the proportion of persons travelling to/from the site by each transport mode. This will be in the form of annual travel mode questionnaire surveys to be completed by all persons attending the site, as far as practicable. A sample of a typical travel mode questionnaire form is included in **Appendix F**.

A physical survey recording the mode of travel for all persons entering and exiting the site shall be undertaken following a year of operation to establish a reliable baseline data set from which to base future iterations of this STP. Subsequent surveys will primarily rely on the questionnaire survey methodology to reduce the costs associated with this data collection.

9 Construction Traffic Management Plan

A detailed Construction Traffic Management Plan (**CTMP**) will be provided as part of detailed construction management plan submitted under the conditions of any approval. For the purposes of this TIA report, the following general principles for managing construction traffic have been assumed and provide an understanding of the likely traffic impacts during the construction period. It should be noted that the construction programme for the development has not yet been finalised.

9.1 Contractor Parking

A small amount of on-site parking for key contractors and staff will be provided throughout the construction works. The number and location of this temporary on-site car parking will change throughout the various construction phases, depending on the surplus area available not required for truck loading and turning areas. The use of public transport and carpooling will be actively encouraged by the builder and all sub-contractors to reduce the reliance on private vehicles and minimise parking demands. There is ample space for temporary contractor parking on site.

9.2 Proposed Work Hours

The construction work will vary depending on the phase of construction and associated activities. Construction works however will be undertaken during standard construction-working hours, which are likely to be as follows:

- Monday to Friday: 7.00AM to 5:00PM
- Saturday: 8.00AM to 5.00PM
- Sunday and Public holidays: No planned work.

9.3 Authorised Traffic Controller

There is a requirement for an authorised traffic controller to be present throughout the demolition, excavation and construction stages of the project. The responsibilities include:

- Supervision of all vehicle movements crossing the property boundary, and
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project.

9.4 Construction Traffic Generation

Light vehicle traffic generation would be generally associated with staff movements to and from the Site. Staff would be comprised of project managers, various trades and general construction staff. Over the full construction period, the peak workforce represents the worst-case scenario for vehicle movements during the morning or evening road network peak hour. The workforce arrival and departure periods (6.30-7.00AM and 5.00-5.30PM) represent the peak construction traffic generation periods. It is anticipated that most, if not all, staff would travel by private vehicle with minimal cycling, public transport and pedestrian trips. This would be reflective of the nature of construction work, where staff must carry construction equipment and tools, which are necessary to undertake the required tasks.

Heavy vehicle traffic would mainly be generated by activities associated with the removal of excavated material, delivery of construction equipment and delivery of material for construction works. As the construction programme has yet to be finalised, a worst-case scenario for heavy vehicle movements per day required for the delivery of construction materials to the Site cannot be accurately determined. However, these deliveries are likely to occur outside of the peak network traffic periods and would have limited (if any) impact on traffic intersections along Captain Cook Drive, The Boulevarde and Princes Highway which currently have high proportions of heavy vehicles.

Importantly, the construction traffic volumes are expected to be lower than the volumes anticipated for the proposed development once it becomes operational. Therefore, recognising that the key intersections are anticipated to perform satisfactorily once the Proposal is completed, it can be assumed that the intersection would satisfactorily accommodate the lower volumes of construction traffic.

9.5 Potential Haulage Routes

It is proposed that construction vehicles enter and exit the Site via the routes shown in **Figure 19: Construction Vehicle Route Map**. A copy of the truck routes shall be provided to all drivers prior to attending the Site. The proposed routes consist of:

Entry Routes

- FROM NORTH / WEST: Right from Princes Highway to The Boulevarde, straight onto Captain Cook Drive and then into the Site.

Exit Routes:

- TO NORTH / WEST: Left onto Captain Cook Drive to The Boulevarde and left onto Princes Highway.

The above access and egress routes are to be utilised by all construction vehicles associated with the Site and represents the shortest route between the local and regional road network – hence minimising the impacts of the construction process. These routes permit B-Double movements. Thus, the additional heavy vehicles will not significantly alter road conditions. No trucks are to be queued on local roads. Mobile phones and two-way radios will be used to coordinate truck arrivals.



Figure 19: Construction Vehicle Route Map

10 Conclusions

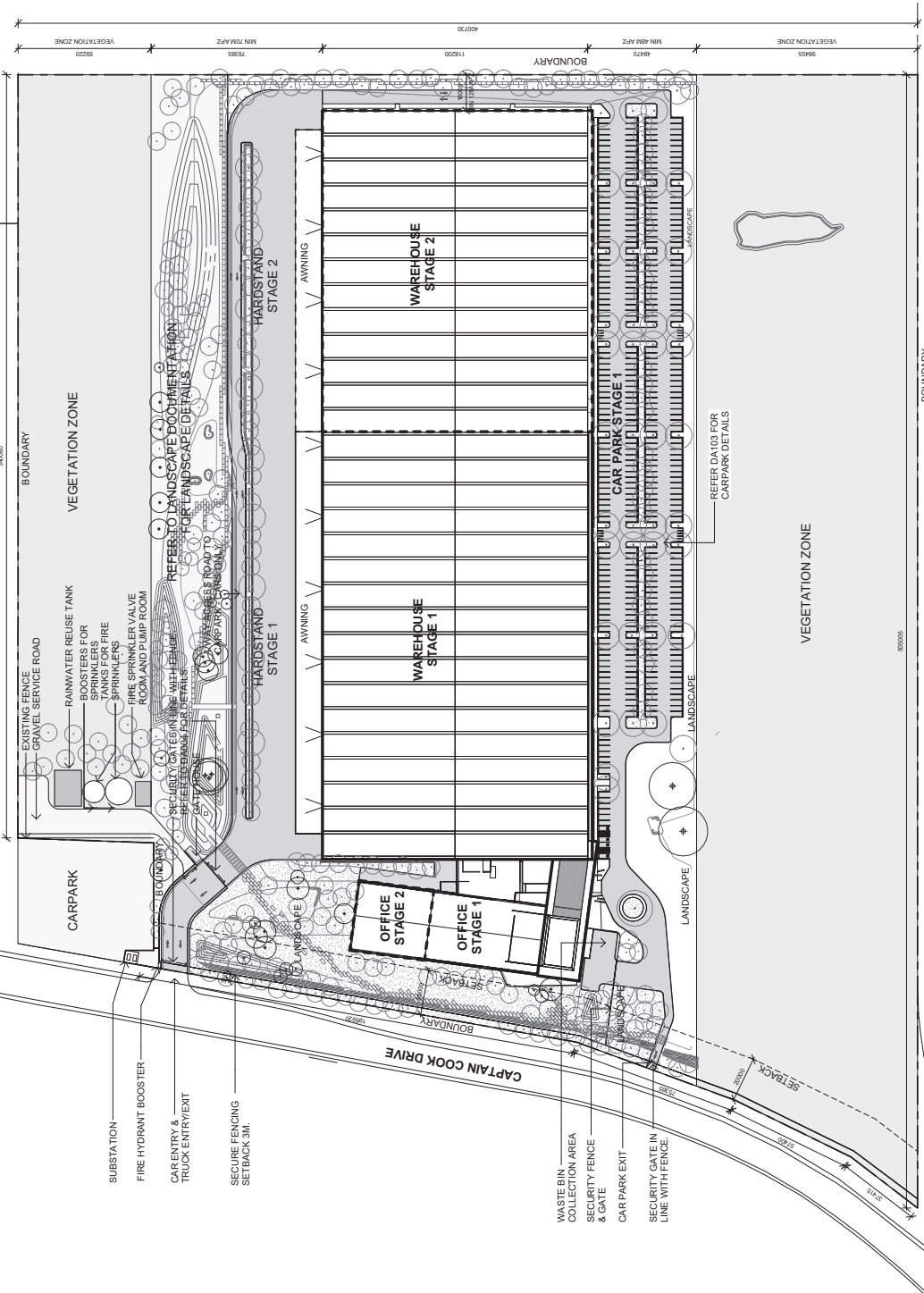
The key findings of this Traffic Impact Assessment are:

- The State Significant Development Application relates to a proposed warehouse and ancillary office development and associated works at 238-258 Captain Cook Drive, Kurnell. The Proposal consists of 39,485m² of Warehouse Gross Floor Area (GFA) and 6,875 m² of ancillary Office and Amenities GFA. It forms part of Sutherland Shire Council specifically Sutherland Shire Council DCP 2015.
- Having regard for the Sutherland Shire Council's DCP car parking rates, the proposed development would result in the requirement for 285 car parking spaces. Under a First Principle Assessment and taking into consideration the promotion of sustainable travel, the Proposal accommodates 390 parking spaces including disabled parking and visitor parking. This quantum of parking would ensure that all parking demands generated by the Proposal could be accommodated on-site, whilst also actively encouraging the reduction of private vehicle usage.
- The Site is well serviced by a dedicated bicycle path located at the Site's street frontage. The surrounding bicycle network is extensive and would encourage new staff to participate in active transport to reach the workplace. The provision of bicycle parking in full compliance with Council's DCP would complement the surrounding bicycle road infrastructure.
- The application would result in a generation of 149 AM and 152 PM peak hour trips. This generation was determined on a First Principle Assessment of the existing Dicker Data Warehouse. The SIDRA analysis of the proposed access locations indicates that the traffic volumes would not alter the existing local intersection level of performance and the proposed access driveways are projected to operate at LoS A.
- A preliminary Construction Traffic Management Plan has been provided that sets out the number of principles that should be adopted by any future detailed CTMP that is developed in coordination with the prospective building contractor.
- A Sustainable Travel Plan (STP) has been developed to encourage future staff to travel via alternative modes of transport. The objective of reducing of private car trips has been proposed through workplace travel plans, facilitating car share trips between staff members and strategic events and meetings to promote active and public transport.
- The access, loading and car park design has generally been designed having regard for relevant Australian Standards (AS2890 series). A standard condition of consent requiring compliance with AS2890 would be considered sufficient to ensure that any minor changes to the plans required, if any, could be undertaken as part of detailed Construction Certificate documentation.

In summary, the TIA report satisfactorily addresses the traffic and transport related SEARs and it is concluded that the Proposal is supportable on traffic planning grounds.

Appendix A

Reduced Plans



1 SITE PLAN - STAGE 2
SCALE 1 : 1000

EASEMENT

EXISTING BUILDINGS
260 SIR CAPTAIN COOK DRIVE
SP72545

WMK Architecture
L2 364 Kent Street
Sydney NSW 2000
Telephone 02 9299 0401
Facsimile 02 9299 0402
wmk-architecture.com
ARN 25 082 956 929

nt
CKER DATA PTY LTD

DICKER

D A T A



Project
2338-258 CAPTAIN COOK DRIVE,
KURNELL, NSW 2231

Title
SITE PLAN STAGE 2

Drawing No. DA001B	Issue A
Scale 1:1000@A1	Drawing Size A1
Project No. 16202	Drawn By AC
CAD Reference 20040101	

Dimensioned Drawings to take precedence over scaling. Contractor to verify all dimensions on site before construction. All inconsistencies to be reported to the Architect immediately. This drawing and its contents remain the copyright of © 2004 Architectural Record, Inc. 04-000

KEY

	PROPOSED TREES (DETAILED & DESIGNED BY LANDSCAPE ARCHITECT). REFER TO LANDSCAPE DOCUMENTATION FOR DETAILS
	EXISTING TREES TO REMAIN REFER TO LANDSCAPE AND ARBORIST DOCUMENTATION FOR DETAILS

SEARS APPLICATION

Dimensioned Drawings to take precedence over scaling. Contractor to verify all dimensions on site before construction. All inconsistencies to be reported to the Architect immediately. This drawing and its contents remain the copyright of © 2004 Architectural Record, Inc. 04-000

Appendix B

SIDRA Output

MOVEMENT SUMMARY

▽ Site: 1 [Captain Cook Drive Truck Access - AM Peak]

Proposed Truck/Car Access Driveway
AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Captain Cook Drive											
11	T1	295	8.2	0.159	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
12	R2	138	6.1	0.141	7.3	LOS A	0.6	4.2	0.43	0.66	52.1
Approach		433	7.5	0.159	2.4	NA	0.6	4.2	0.14	0.21	57.2
East: Access Driveway											
1	L2	11	100.0	0.023	9.6	LOS A	0.1	1.0	0.47	0.66	48.9
3	R2	1	0.0	0.023	13.5	LOS A	0.1	1.0	0.47	0.66	50.9
Approach		12	90.9	0.023	10.0	LOS A	0.1	1.0	0.47	0.66	49.1
North: Captain Cook Drive											
4	L2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
5	T1	317	10.0	0.172	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		318	9.9	0.172	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		762	9.8	0.172	1.5	NA	0.6	4.2	0.09	0.13	58.2

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.

MOVEMENT SUMMARY

▽ Site: 2 [Captain Cook Drive Truck Access - PM Peak]

Proposed Truck/Car Access Driveway
PM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Flows		Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		Total veh/h	HV %	v/c	sec		veh	m		per veh	km/h
South: Captain Cook Drive											
11	T1	316	3.3	0.165	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
12	R2	5	20.0	0.007	8.1	LOS A	0.0	0.2	0.47	0.60	51.2
Approach		321	3.6	0.165	0.1	NA	0.0	0.2	0.01	0.01	59.8
East: Access Driveway											
1	L2	7	100.0	0.019	11.0	LOS A	0.1	0.8	0.53	0.70	48.0
3	R2	1	0.0	0.019	13.2	LOS A	0.1	0.8	0.53	0.70	49.9
Approach		8	87.5	0.019	11.3	LOS A	0.1	0.8	0.53	0.70	48.2
North: Captain Cook Drive											
4	L2	1	0.0	0.001	5.5	LOS A	0.0	0.0	0.00	0.58	53.6
5	T1	417	2.5	0.216	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		418	2.5	0.216	0.0	NA	0.0	0.0	0.00	0.00	59.9
All Vehicles		747	3.9	0.216	0.2	NA	0.1	0.8	0.01	0.01	59.7

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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Project: C:\Users\Vincent Cheng\Ason Group\Ason Group Team Site - 0466\Projects\Modelling\AG0466 Driveway Access Analysis-2.sip7

MOVEMENT SUMMARY

▽ Site: 3 [Captain Cook Drive Car Exit - AM Peak]

Proposed Car Exit Driveway
AM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Captain Cook Drive											
11	T1	433	7.5	0.233	0.0	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		433	7.5	0.233	0.0	NA	0.0	0.0	0.00	0.00	59.9
East: Access Driveway											
1	L2	8	0.0	0.009	6.6	LOS A	0.0	0.2	0.39	0.59	52.4
3	R2	1	0.0	0.009	9.8	LOS A	0.0	0.2	0.39	0.59	51.7
Approach		9	0.0	0.009	7.0	LOS A	0.0	0.2	0.39	0.59	52.3
North: Captain Cook Drive											
5	T1	327	12.9	0.181	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		327	12.9	0.181	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		769	9.7	0.233	0.1	NA	0.0	0.2	0.00	0.01	59.8

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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Project: C:\Users\Vincent Cheng\Ason Group\Ason Group Team Site - 0466\Projects\Modelling\AG0466 Driveway Access Analysis-2.sip7

MOVEMENT SUMMARY

▽ Site: 4 [Captain Cook Drive Car Exit - PM Peak]

Proposed Car Exit Driveway
PM Peak
Giveway / Yield (Two-Way)

Movement Performance - Vehicles											
Mov ID	OD Mov	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Captain Cook Drive											
11	T1	321	3.6	0.169	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		321	3.6	0.169	0.0	NA	0.0	0.0	0.00	0.00	60.0
East: Access Driveway											
1	L2	147	0.0	0.138	7.3	LOS A	0.6	3.9	0.46	0.68	52.2
3	R2	1	0.0	0.138	10.1	LOS A	0.6	3.9	0.46	0.68	51.5
Approach		148	0.0	0.138	7.3	LOS A	0.6	3.9	0.46	0.68	52.2
North: Captain Cook Drive											
5	T1	424	4.2	0.222	0.0	LOS A	0.0	0.0	0.00	0.00	60.0
Approach		424	4.2	0.222	0.0	NA	0.0	0.0	0.00	0.00	60.0
All Vehicles		894	3.3	0.222	1.2	NA	0.6	3.9	0.08	0.11	58.5

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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Project: C:\Users\Vincent Cheng\Ason Group\Ason Group Team Site - 0466\Projects\Modelling\AG0466 Driveway Access Analysis-2.sip7

MOVEMENT SUMMARY

Site: 3 [Captain Cook Drive / Trinity Street - EX AM]

Captain Cook Drive / Trinity Street
AM Peak
Existing Scenario
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Captain Cook Drive											
2	T1	547	14.6	0.398	5.7	LOS A	3.0	23.1	0.09	0.50	57.0
3	R2	64	1.6	0.398	9.4	LOS A	3.0	23.1	0.09	0.50	52.1
Approach		612	13.3	0.398	6.0	LOS A	3.0	23.1	0.09	0.50	56.7
East: Trinity Street											
4	L2	171	0.6	0.157	4.7	LOS A	0.6	4.3	0.39	0.58	52.2
6	R2	11	0.0	0.157	8.3	LOS A	0.6	4.3	0.39	0.58	54.8
Approach		181	0.6	0.157	4.9	LOS A	0.6	4.3	0.39	0.58	52.4
North: Captain Cook Drive											
7	L2	7	0.0	0.324	5.4	LOS A	1.7	14.4	0.21	0.49	54.3
8	T1	400	23.4	0.324	6.2	LOS A	1.7	14.4	0.21	0.49	57.3
Approach		407	23.0	0.324	6.2	LOS A	1.7	14.4	0.21	0.49	57.2
All Vehicles		1200	14.6	0.398	5.9	LOS A	3.0	23.1	0.18	0.51	56.4

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: 3 [Captain Cook Drive / Trinity Street - EX PM]

Captain Cook Drive / Trinity Street
PM Peak
Existing Scenario
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Captain Cook Drive											
2	T1	380	1.4	0.314	5.5	LOS A	2.2	15.2	0.06	0.55	60.2
3	R2	139	0.0	0.314	9.3	LOS A	2.2	15.2	0.06	0.55	51.7
Approach		519	1.0	0.314	6.5	LOS A	2.2	15.2	0.06	0.55	58.5
East: Trinity Street											
4	L2	88	0.0	0.088	4.9	LOS A	0.4	2.5	0.44	0.59	52.1
6	R2	6	0.0	0.088	8.5	LOS A	0.4	2.5	0.44	0.59	54.4
Approach		95	0.0	0.088	5.1	LOS A	0.4	2.5	0.44	0.59	52.2
North: Captain Cook Drive											
7	L2	6	0.0	0.420	5.8	LOS A	2.5	17.4	0.34	0.53	53.4
8	T1	533	1.2	0.420	6.3	LOS A	2.5	17.4	0.34	0.53	57.3
Approach		539	1.2	0.420	6.3	LOS A	2.5	17.4	0.34	0.53	57.3
All Vehicles		1153	1.0	0.420	6.3	LOS A	2.5	17.4	0.22	0.54	57.6

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: 3 [Captain Cook Drive / Trinity Street - FU AM]

Captain Cook Drive / Trinity Street
AM Peak
Future Scenario
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Captain Cook Drive											
2	T1	685	12.9	0.506	5.7	LOS A	4.4	34.2	0.17	0.49	57.1
3	R2	75	1.4	0.506	9.4	LOS A	4.4	34.2	0.17	0.49	51.7
Approach		760	11.8	0.506	6.1	LOS A	4.4	34.2	0.17	0.49	56.8
East: Trinity Street											
4	L2	197	0.5	0.192	4.8	LOS A	0.8	5.5	0.42	0.60	51.9
6	R2	21	0.0	0.192	8.5	LOS A	0.8	5.5	0.42	0.60	54.4
Approach		218	0.5	0.192	5.2	LOS A	0.8	5.5	0.42	0.60	52.1
North: Captain Cook Drive											
7	L2	18	0.0	0.354	5.4	LOS A	2.0	16.8	0.25	0.50	54.1
8	T1	419	24.9	0.354	6.3	LOS A	2.0	16.8	0.25	0.50	57.1
Approach		437	23.9	0.354	6.3	LOS A	2.0	16.8	0.25	0.50	57.0
All Vehicles		1415	13.8	0.506	6.0	LOS A	4.4	34.2	0.23	0.51	56.4

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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Organisation: ASON GROUP PTY LTD | Processed: Wednesday, 4 April 2018 5:11:20 PM

Project: C:\Users\Vincent Cheng\Ason Group\Ason Group Team Site - 0466\Projects\Modelling\AG0466 Driveway Access Analysis-2.sip7

MOVEMENT SUMMARY

Site: 3 [Captain Cook Drive / Trinity Street - FU PM]

Captain Cook Drive / Trinity Street
PM Peak
Future Scenario
Roundabout

Movement Performance - Vehicles											
Mov ID	OD Mov	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 per veh	Average Speed km/h
South: Captain Cook Drive											
2	T1	385	1.6	0.342	5.5	LOS A	2.5	17.9	0.10	0.55	59.9
3	R2	165	0.0	0.342	9.3	LOS A	2.5	17.9	0.10	0.55	51.3
Approach		551	1.1	0.342	6.6	LOS A	2.5	17.9	0.10	0.55	58.0
East: Trinity Street											
4	L2	99	0.0	0.118	5.8	LOS A	0.6	4.1	0.57	0.67	51.1
6	R2	12	0.0	0.118	9.4	LOS A	0.6	4.1	0.57	0.67	53.4
Approach		111	0.0	0.118	6.1	LOS A	0.6	4.1	0.57	0.67	51.4
North: Captain Cook Drive											
7	L2	12	0.0	0.555	6.2	LOS A	3.9	27.8	0.45	0.56	52.6
8	T1	687	2.0	0.555	6.7	LOS A	3.9	27.8	0.45	0.56	56.8
Approach		699	2.0	0.555	6.7	LOS A	3.9	27.8	0.45	0.56	56.7
All Vehicles		1360	1.5	0.555	6.6	LOS A	3.9	27.8	0.32	0.56	56.9

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.

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.

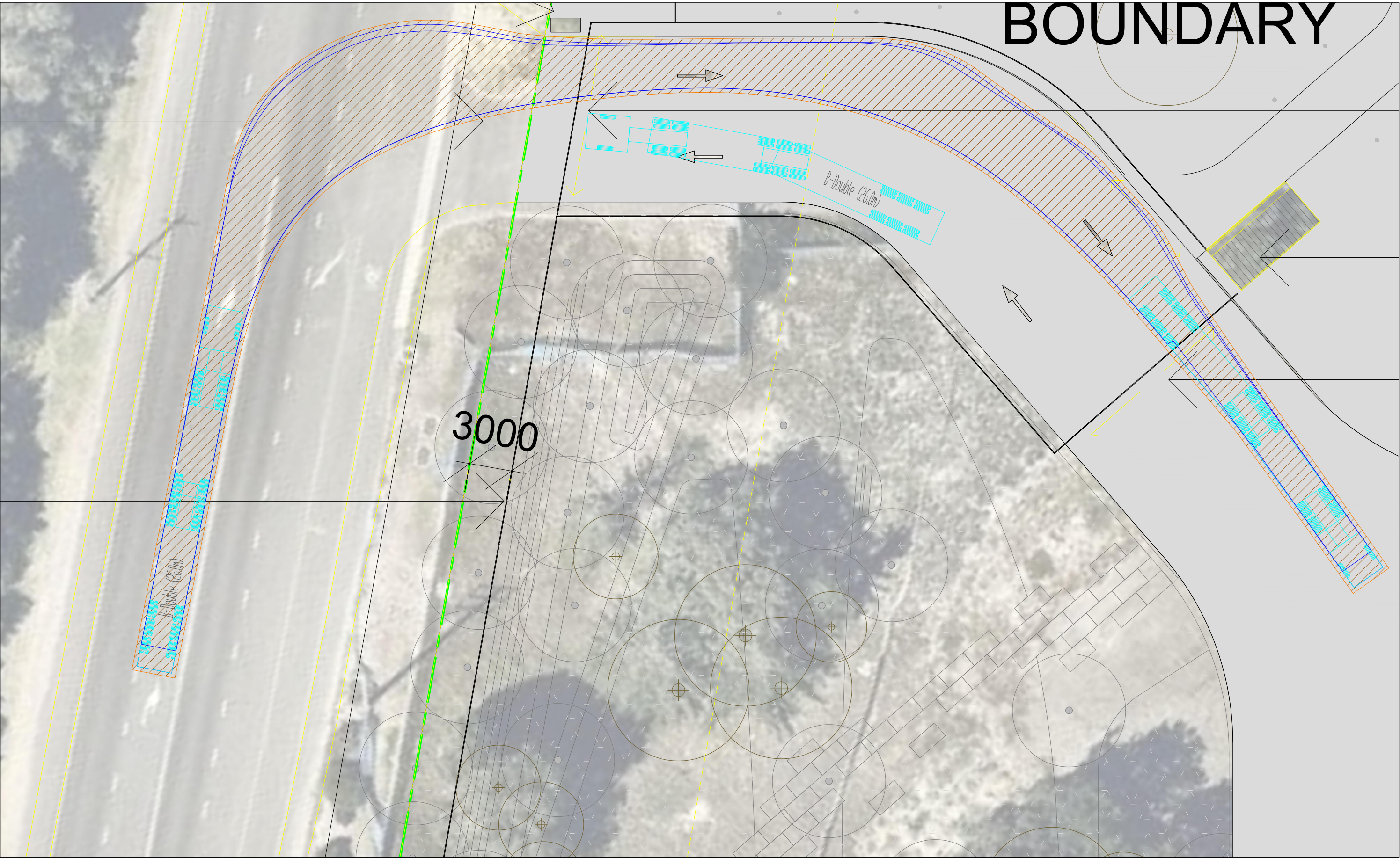
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Project: C:\Users\Vincent Cheng\Ason Group\Ason Group Team Site - 0466\Projects\Modelling\AG0466 Driveway Access Analysis-2.sip7

Appendix C

Swept Path Analysis



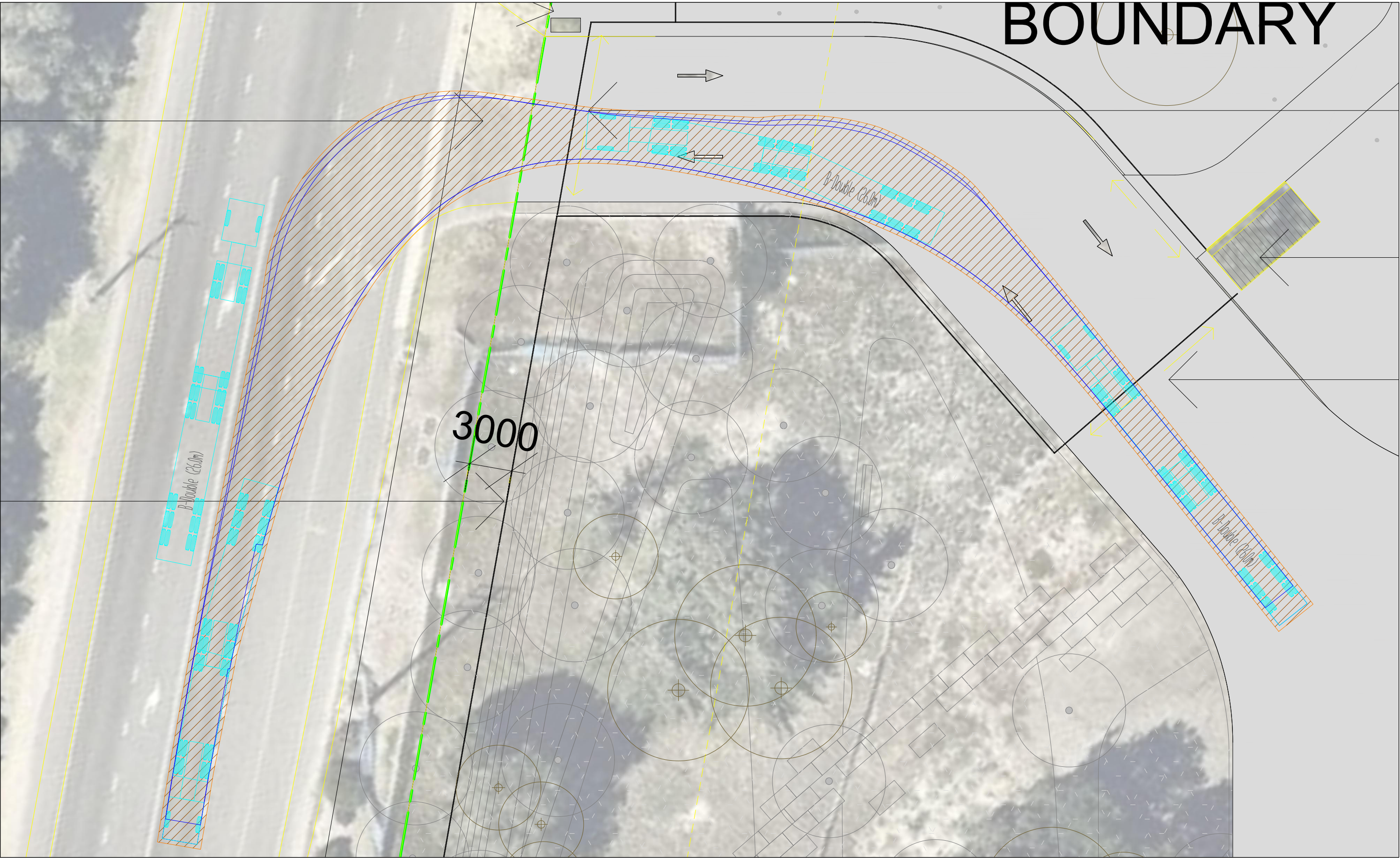
Revision notes:		
Rev:	Date:	Notes:
For information purposes only - not for construction		

Drawn By:
VC
Client:
Dicker Data

Project:
AG0466 238-258 Captain Cook Drive, Kurnell
Drawing Title:
26m B-Double Access

Date:
21/03/2018
Scale @ A3:
1:250
Drawing Number:
01

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Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au



Revision notes:		
Rev:	Date:	Notes:

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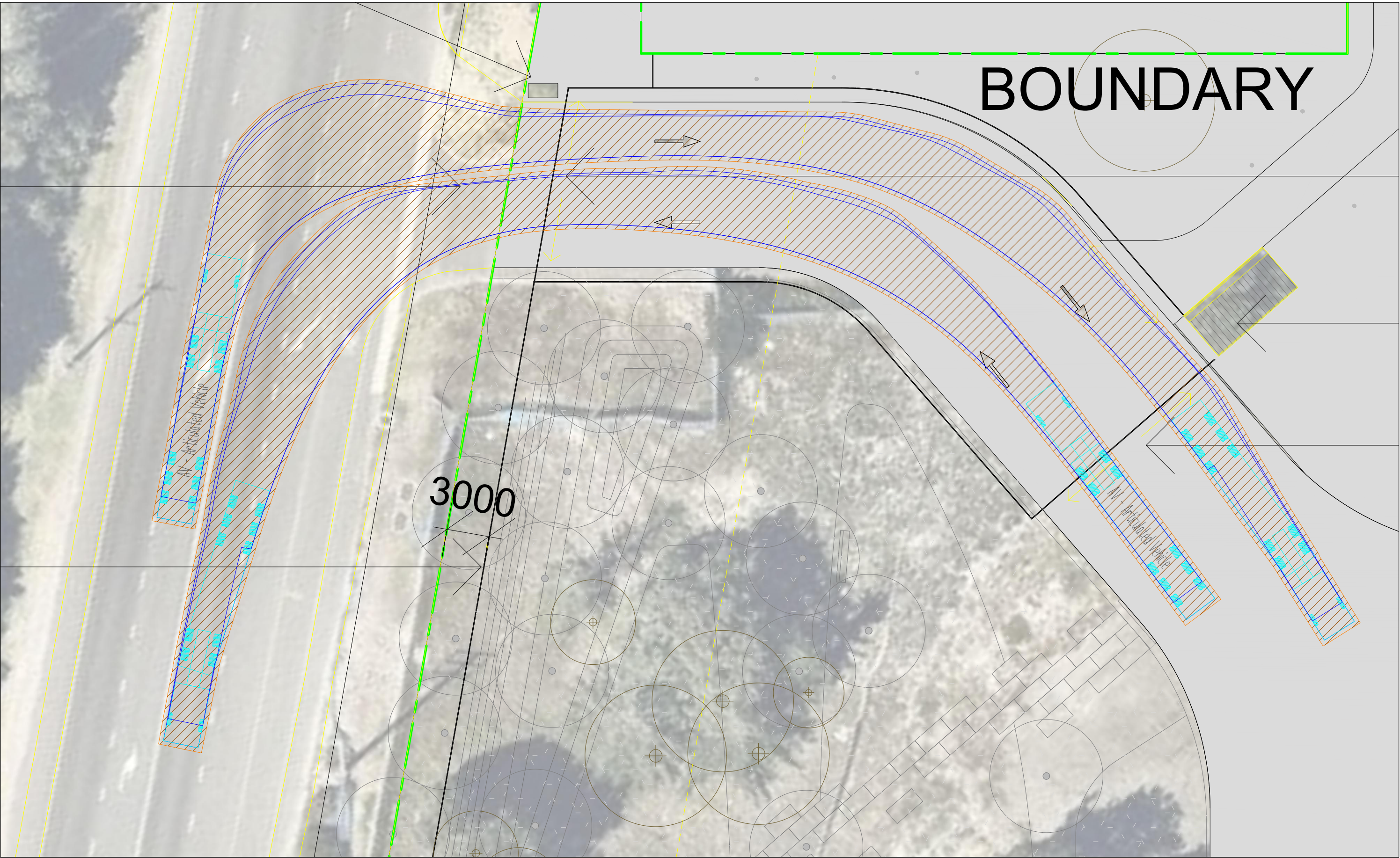
Drawn By:
VC
Client:
Dicker Data

Project:
AG0466 238-258 Captain Cook Drive, Kurnell
Drawing Title:
26m B-Double Access

Date:
21/03/2018
Scale @ A3:
1:250
Drawing Number:
02

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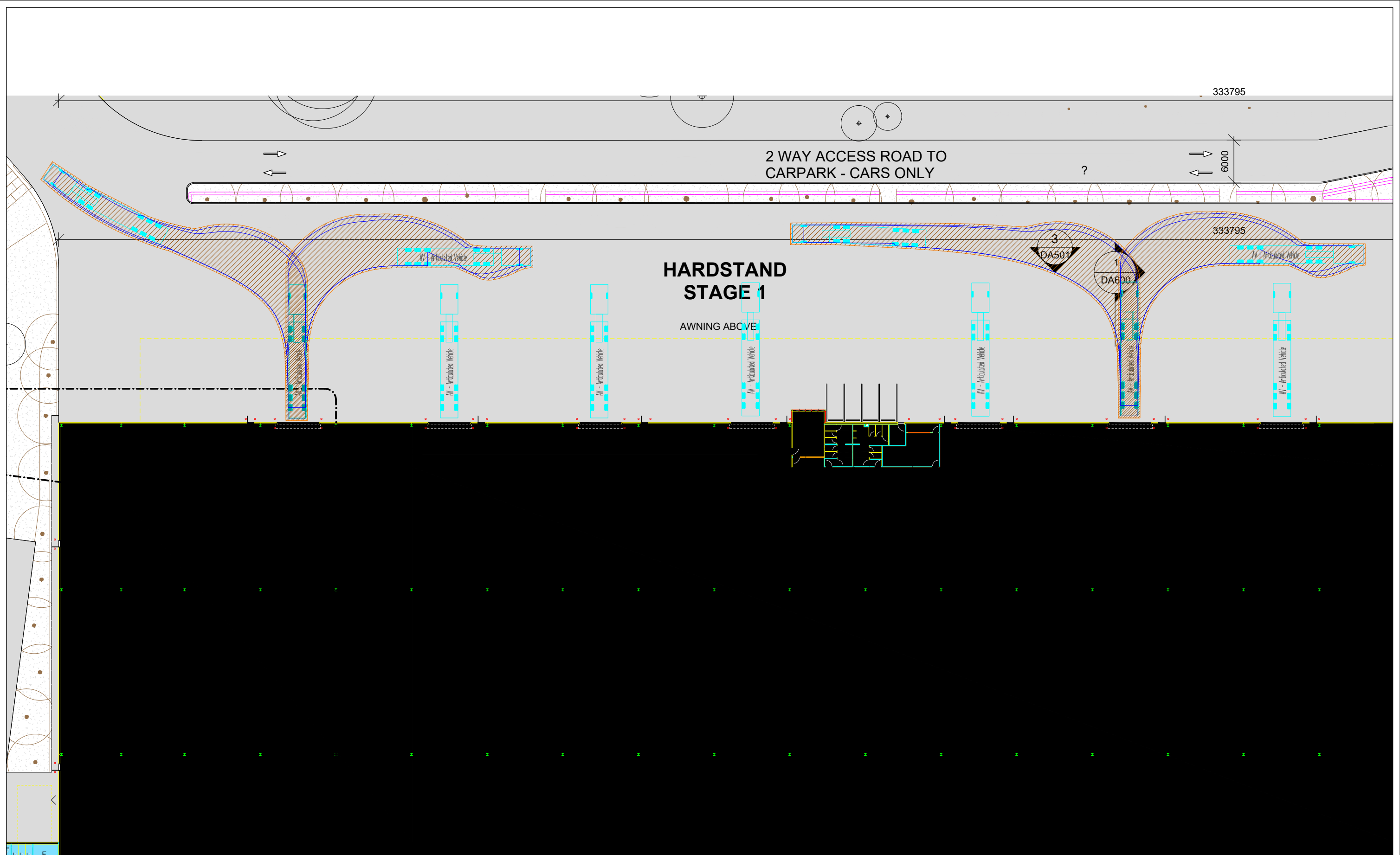
Revision notes:		
Rev:	Date:	Notes:


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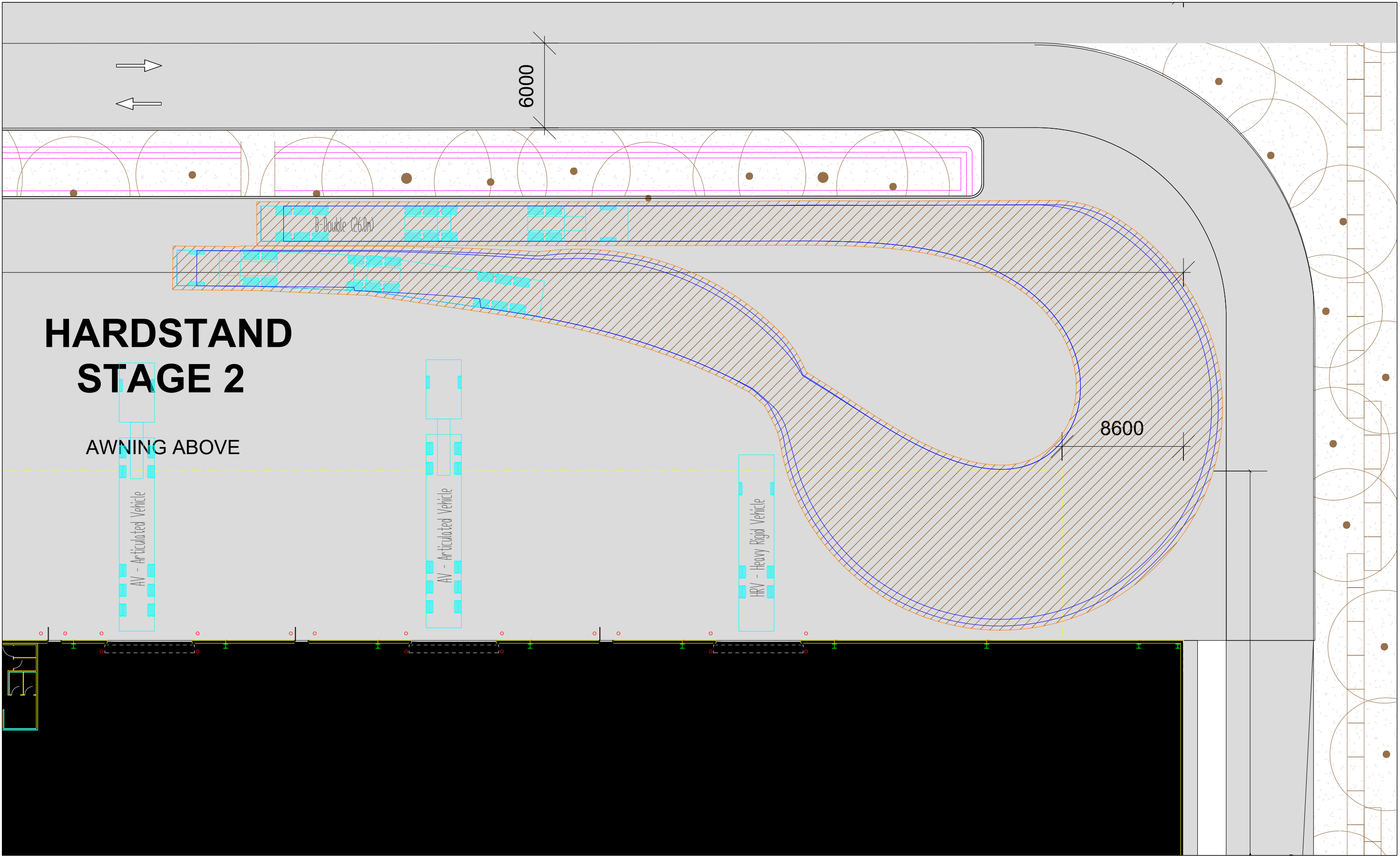
Drawn By:
VC
Client:
Dicker Data

Project:
AG0466
238-258 Captain Cook Drive, Kurnell
Drawing Title:
19m AV Access

Date:
21/03/2018
Scale @ A3:
1:250
Drawing Number:
03



Revision notes:			Drawn By:		Project:		Date:		<div></div> <div>Suite 1202, Level 12, 220 George Street Sydney NSW 2000 info@asongroup.com.au</div>	
Rev:	Date:	Notes:	VC		AG0466 238-258 Captain Cook Drive, Kurnell		21/03/2018			
			Client:		Drawing Title:		Scale @ A3:			
For information purposes only - not for construction			Dicker Data		19m AV Docks		1:500			
							Drawing Number:			
							04			



Revision notes:		
Rev:	Date:	Notes:

For information purposes only - not for construction

Drawn By: VC
Client: Dicker Data

Project: AG0466 238-258 Captain Cook Drive, Kurnell
Drawing Title: 26m B-Double Turning Movement

Date: 21/03/2018
Scale @ A3: 1:250
Drawing Number: 05



Suite 1202, Level 12, 220 George Street
Sydney NSW 2000
info@asongroup.com.au

Appendix D

TTW Statement

23 March 2018

171516

DCI NSW PTY LTD
G1 1-15 Barr Street,
Balmain, NSW 2041

Attention: Dan Jones

Dicker Data Warehouse and Distribution Centre

Speed Zone Relocation on Captain Cook Drive

Dear Dan,

An existing boundary between a 60 km/hr speed zone and an 80 km/hr speed zone occurs mid-way along the development site frontage on Captain Cook Drive. It is recommended that the 60 km/hr zone be extended west by 250 metres.

Site Overview

Speed limits on Captain Cook Drive vary between 60 km/hr and 80 km/hr. Travelling eastbound on Captain Cook Drive, the speed limit reduces from 80 km/hr to 60 km/hr approximately halfway along the development site frontage. Conversely the speed limit increases from 60 km/hr to 80 km/hr for westbound traffic.

Captain Cook Drive is a line marked two-lane road with bike lanes on each shoulder. Bus stops are located on both sides of the road approximately 60 metres east of the speed limit change (i.e. in the 60 km/hr zone), servicing the 987 loop service between Cronulla and Kurnell.

Captain Cook Drive Proposal

As part of the proposed development, it is recommended that speed zone change be moved west along Captain Cook Drive, beyond the development frontage. Doing so would reduce the speed to 60 km/hr for the full frontage of development site. The 60 km/hr zone would be extended by approximately 250 metres to the west.

The reduced speed across the development site frontage would:

- Provide a consistent speed across the full frontage of the proposed industrial site where increased vehicle volumes and manoeuvres will be introduced;
- Improve general safety for vehicles on Captain Cook Drive and to vehicles entering and exiting the site by reducing vehicle speeds;
- Improve general safety for pedestrians using the bus stops either waiting in the road corridor clear zone or crossing the road for access;
- Improve general safety for cyclists in this portion of the bicycle lanes; and

- Reduce the length of acceleration and deceleration lanes required, which would in turn:
 - Reduce impact on existing services including underground culverts, power poles, and cables;
 - Reduce encroachment into the landscaped shoulder, the Towra Point ecologically sensitive area, and other adjacent environmental areas; and
 - Contain the length of the westbound acceleration lane to the straight section of Captain Cook Drive without tapering onto the curve.

Included with this letter are drawings showing the existing road configuration, the proposed acceleration and deceleration lanes, and the proposed relocated speed zone.

Should you require anything further please contact the undersigned.

Yours faithfully

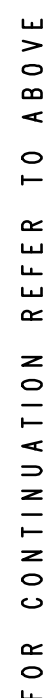
TAYLOR THOMSON WHITTING (NSW) PTY LTD



MICHAEL BABBAGE

Traffic Engineer

P:\2017\1715\171516\Reports\TTW\Traffic\180323 Captain Cook Drive Speed Zone Relocation mb.docx

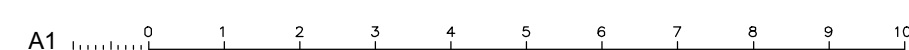


EXISTING ROAD CARRIAGEWAY

EXISTING BIKE LANE

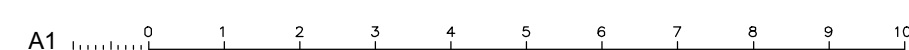
NEW ROAD CARRIAGEWAY WIDENING

NEW BIKE LANE

[illegible]



File Name: SKC09.dwg - USER: Theeh - Plot File Created: Mar 23, 2018 - 10:06am

[illegible]

Civil Engineer

TTW **Taylor
Thomson
Whitting**

612 9439 7288 | 48 Chandos Street St Leonards NSW 2065

Project

DICKER DATA OFFICE &
WAREHOUSE DEVELOPMENT
CAPTAIN COOK DRIVE,
KURNELL

Sheet Subject

CONCEPT DESIGN
CAPTAIN COOK DRIVE
UPGRADE

Scale : A1	Drawn	Authorised
1:500	JH	
Job No	Drawing No	Revision
171516	SKC09	P1
Plot File Created: Mar 23, 2018 - 10:06am		

Appendix E

Workplace Travel Plan

Getting to and from Dicker Data 238 - 258 Captain Cook Drive

Parking

The Site has 496 general parking spaces including 6 disabled parking spaces.

The at-grade carpark can be accessed from Captain Cook Drive.

There are a limited number of alternative travel options available which are detailed below:-

Bus Service

Transdev runs a loop bus service (No. 987) between Cronulla Railway Station and Kurnell. Bus stops are located toward the eastern end of the site.

Monday to Friday services operate between 6:30 am and 8:40pm every 30 minutes during peak hours and hourly throughout the day.

Hourly services between 8:30am and 6:00pm operate on Saturdays.

The service also operates on Sundays.

Bus fares are based on the distance you travel with convenient payment options available through the use of the Opal card. The Opal card allows you to pay electronically on all public transport services, including buses. You can get an Opal card online at opal.com.au or by calling 13 67 25 (13 OPAL).

Further information regarding buses can be found by visiting the NSW Government's Plan Your Trip website at <http://www.transportnsw.info/>, or download the real-time app to your phone at <http://www.transportnsw.info/en/travel-with-us/keep-updated/apps/real-time-transport.page?>

Train Services

The 987 bus service connects to the T4 Sydney Trains line,

Services generally run every 10 minutes during peak hours and 20 minutes during off-peak periods between 5:00am and 12:30 am. on weekdays.

Weekend services operate every 20 minutes.

Further information regarding trains can be found by visiting the NSW Government's Plan Your Trip website at:- <http://www.transportnsw.info/>.

Cycling

Dedicated cycle lanes run along the length of Captain Cook Drive meeting lanes along Elouera Road to the Railway Station.

Other Cycle Lanes, Shared Cycle Paths and Bicycle - friendly road are shown on the map overleaf.

A more comprehensive map including areas beyond this immediate vicinity can be found at <http://www.sydneycycleways.net/>

asongroup

info@asongroup.com.au | +61 2 9003 6601 | Suite 502, Level 5, 220 George Street, Sydney NSW 2000

Dicker Data 238 - 258 Captain Cook Drive

Kurnell 2231



Workplace Travel Plan





Public Transport


Transdev bus services

987 Kurnell to Cronulla Railway Station

 Bus stops

Sydney Trains

 Cronulla Railway Station

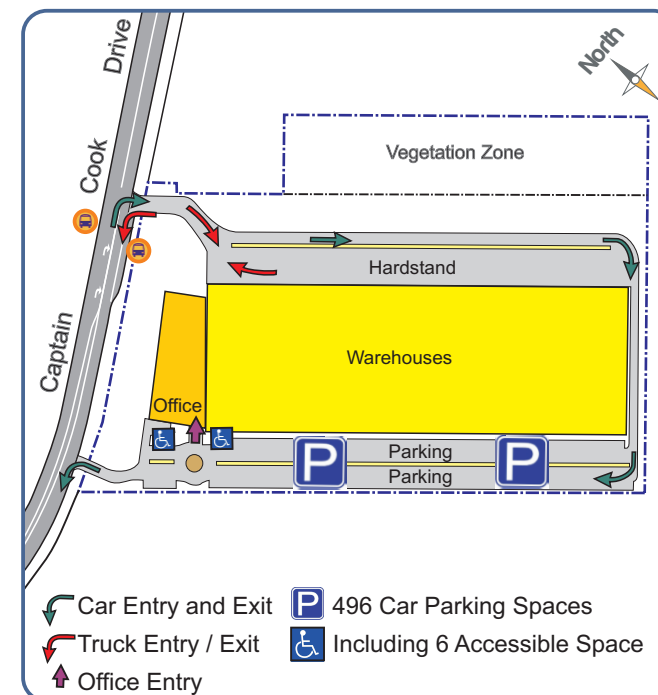
 T4 Illawarra Eastern Suburbs Line:
Cronulla to Bondi Junction via City
Change at Sutherland for South Coast

Active Transport

 Dedicated Cycle Lanes

 Bicycle-Friendly Roads

 Separated Dedicated Cycleways



Appendix F

Instructions for Surveyor(s)

1. The Survey Form (over page) should be completed by EVERY PERSON attending the site on a particular day.
2. This survey should be completed SEPARATELY for EACH TRIP undertaken

Travel Mode Questionnaire Survey Form

Date:

Approximate Time:

Q1. Are you one of the following?

- | | |
|----------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Warehouse staff | <input type="checkbox"/> Casual contractor |
| <input type="checkbox"/> Office staff | <input type="checkbox"/> Company driver / sub-contractor |
| <input type="checkbox"/> Courier / office delivery | <input type="checkbox"/> Other (Please specify)
..... |

Q2. How did you travel to / from the site today?

- | | |
|--------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Walked only | <input type="checkbox"/> Motorcycle / scooter |
| <input type="checkbox"/> Bicycle only | <input type="checkbox"/> Car (as passenger) |
| <input type="checkbox"/> Train | <input type="checkbox"/> Car (as driver) |
| <input type="checkbox"/> Bus | <input type="checkbox"/> Other (Please specify)
..... |
| <input type="checkbox"/> Taxi | |
| <input type="checkbox"/> Car share vehicle | |

Q3. If you drove to the site, where did you park?

- ☐ Not applicable – did not drive
- ☐ On-site car park
- ☐ On-site within truck hardstand
- ☐ Other (Please specify)
.....