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1 April 2021

P1893 Ramboll PoN Carrington TIA Draft

Port of Newcastle
C/- Ramboll Australia Pty Ltd
Newcastle NSW 2300

Attn: Belinda Sinclair

Dear Belinda

Re: Traffic Impact Statement for the proposed Commercial Development, 46 Fitzroy Street, Carrington.

Further to your engagement we have now completed our site visit and review of the documentation provided for the proposed commercial development at 46 Fitzroy Street, Carrington and provide the following traffic impact statement. This assessment has been prepared in conjunction with the Austroads Guidelines and Section 2.3 of the RTA Guide to Traffic Generating Developments which provides the structure for the reporting of key issues to be addressed when determining the impacts of traffic associated with a development. The RTA Guide indicates that the use of this format and checklist ensures that all matters are considered by the relevant road authority.

The site consists of a single lot (Lot 33, DP1078910) which is zoned SP1 Special Activities and is included in the Lease Area for the Port of Newcastle. The Minister is the consent authority for development on land within the Lease Area in accordance with the Three Ports SEPP.

Consideration has been given to the relevant planning requirements documented in the SEPP (Three Ports) 2013 and the Newcastle Development Control Plan 2012 as well as the Carrington Greenspace Masterplan (City of Newcastle 2020).

Due to the size and location (more than 90 metres from a classified road) this proposal does not require referral to or concurrence from Transport for NSW under Schedule 3 of the Infrastructure SEPP.

The RMS (previously RTA) has joined with Transport for NSW (TfNSW) and is now known as Transport for New South Wales. Documentation and references are interchangeable.

1. Site Location and Context

The proposed development is located at 46 Fitzroy Street with frontages to both Fitzroy and Denison Streets Carrington as shown in Figure 1.

The surrounding land use consists of predominately commercial and industrial uses being part of the adjacent port area with the residential village of Carrington to the north east.

The subject site is vacant with a concrete slab on the eastern half of the site. Historically the site had two factories located on it.

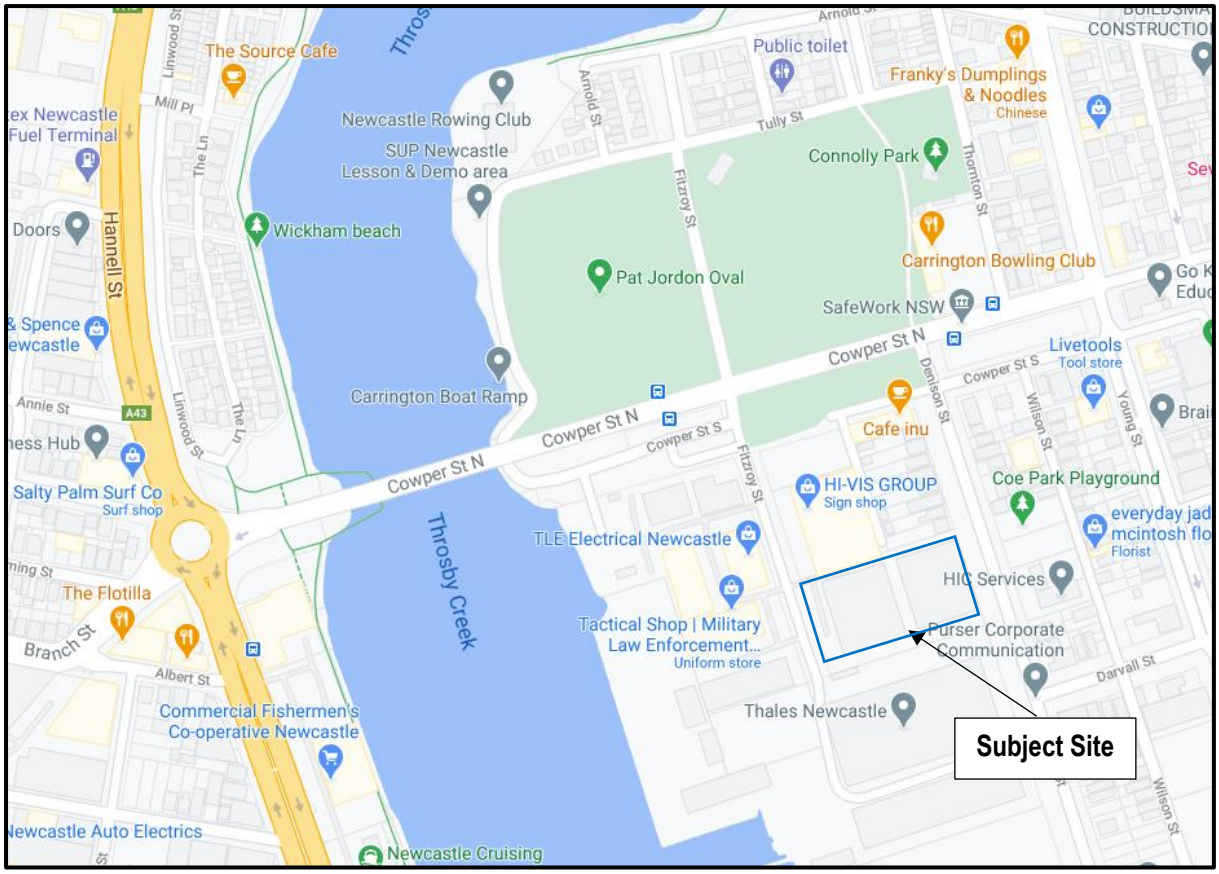

Figure 1 - Location of the subject site in the context of the location road network.

2. Traffic Impact Assessment:

Item	Comment
Existing Situation	
2.1.1 Site Location and Access	The subject site is located at 46 Fitzroy Street Carrington as shown in Figure 1. It has frontage to both Fitzroy Street and Denison Street with access provided via informal driveways on both streets.
2.2.1 Road Hierarchy	The main road through the locality is **Hannell Street,** a classified State road (MR316) with a north-south orientation connecting Newcastle with the Pacific Highway via Industrial Drive to the north. Located more than 500 metres to the west of the subject site it provides a dual carriageway with two lanes of travel in each direction, separated by a raised median with sealed shoulders, kerbside parking and a marked cycling lane. Turning lanes are provided at most intersections to maintain capacity. Street lighting is available and pedestrian footpaths are provided. Hannell Street operates under the posted speed limit of 60 km/hr. Intersections along Hannell Street vary with most as T-intersections left in left out only with raised central median and others either signal controlled allowing for all turning movements or at the intersection with Cowper Street a dual lane roundabout.

Item	Comment
	Cowper Street North is a local street providing a sealed pavement in the order of 12.5m wide providing an entry into Carrington having passed over Throsby Creek. Simple T or four-way intersections along Cowper Street see Cowper Street having priority. To the east of the subject site, it connects with Young Street at a four-way intersection with pedestrian crossings on the north and west legs. Parking is generally allowed along this length of road allowing for intersections and bus stops. Street lighting is available and pedestrian footpaths are provided to each side. This road operates under the posted speed limit of 50 km/hr. Cowper Street North connects with Fitzroy Street at a four-way intersection with the north leg of Fitzroy Street providing for local traffic only with a raised threshold treatment and a 5t limit. Denison Street is a T-intersection with all movements catered for. **Fitzroy Street and Denison Street** both run north south parallel with each other and perpendicular to Cowper Street North. They are historical port/industrial roads with Fitzroy Street terminating within the Thales site. Fitzroy Street has a width in the order of 10.5-11 metres with Denison Street being 12.5m along the site frontage. To the north Denison Street widens to allow for angle parking on one side. Parallel parking is allowed elsewhere along both streets with a 1 Hour parking sign indicating time limited parking north of the site.
2.2.2 Current and Proposed Roadworks, Traffic Management Works and Bikeways	A review of the Newcastle City Council and the TfNSW website indicates that there are currently no roadworks planned in the immediately locality of the subject site. Some changes along Hannell street have been undertaken as part of the ongoing development of the Wickham Precinct and the Newcastle Interchange whilst a concept plan for a footpath is being developed on the west side of Hannell Street from Throsby Creek Shared Path to Harrison Street. A review of the Newcastle Cycling Maps (City) indicates that there is a cycling route over the Cowper Street Bridge and north along Fitzroy Street (shown below). These connect with off road shared paths which form part of the regional R6 route between Newcastle and the University at Callaghan. Observations on site indicate that Cowper Street North provides a popular route for cyclists.

Item	Comment
	
2.3 Traffic Flows	As part of the project work, Seca Solution collected traffic data at the intersection of Cowper Street North and Denison Street to determine the current peak hour traffic flows. Traffic data was collected on Tuesday 3rd November and Wednesday 4th November 2020 during the morning (between 7:00am and 9:30am) and the afternoon peak (between 3.45pm and 5.45pm). The peak was determined as being 8.15-9.15am and 4.45-5.45pm. A summary of the traffic volumes surveyed is provided below.
2.3.1 Daily Traffic Flows	TfNSW guidelines indicate that peak hours typically represent around 10% of the daily traffic flows. This would indicate that the daily traffic flows along Cowper Street, in this location, could be in the order of 5,700 vehicles per day whilst flows on Denison Street are much lower at around 840 vehicles per day. Fitzroy Street would have similar flows as Denison Street given it provides access to a number of sites including Thales at the end of the street.

	Direction of flow	AM	PM
Denison Street	Northbound	51	37
	Southbound	54	25
Cowper Street N (west of intersection)	Eastbound	281	257
	Westbound	319	275

Item	Comment
2.3.2 AADT	There is no AADT data available for this area from TfNSW.
2.3.3 Daily Traffic Flow Distribution	Daily traffic flows along these streets adjacent to the site would be reasonably balanced given that they are dead ends providing access primarily to employment lands.
2.3.4 Vehicle Speeds	No speed surveys were completed as part of the site work, however observations on site indicate that drivers typically travel below the posted speed limit due to the interactions with driveways and parking vehicles. Vehicles along Cowper Street tend to travel at or above the posted speed limit due to the straight alignment of the road. There is also a permanent electronic sign that indicates vehicle speeds for drivers westbound on Cowper Street.
2.3.5 Existing Site Flows	Historically (pre 2016) the subject site operated as two factories and would have carried significant traffic flows associated with staff and goods movements. The site is now vacant and generates no traffic flows.
2.3.6 Heavy Vehicle Flows	There is a high demand for heavy vehicle movements along Cowper Street (5%) in the morning with lower demands on the surrounding local streets reflecting the various industrial and commercial uses in the surrounding area. Peak hour afternoon flows are much lower.
2.3.7 Current Road Network Operation	Observations on site indicate that the local road network, including the roundabout intersection of Cowper Street and Hannell Street operates well with minimal delays and congestions throughout most of the day. There can be some delays and congestion on Hannell Street during the commuter peak hours however this typically clears with traffic continuing to move through this corridor. Traffic flows on Denison Street and Fitzroy Street are in the order of 840vpd with peak hour flows in the morning in the order of 110vph two way. Based on the RTA Guide to Traffic Generating Developments these urban roads operate at a level of service A being less than 200 vph one way.
2.4 Traffic Safety and Accident History	A review of accident data provided by TfNSW (https://roadsafety.transport.nsw.gov.au/statistics/interactivecrashstats) indicates that there has been one accident at the intersection of Fitzroy Street and Cowper Street North resulting in a serious injury. This occurred on a Saturday and involved a right turning and a through travelling vehicle. No accidents have been recorded at the intersection of Denison Street and Cowper Street North nor within the immediate vicinity of the site in the past 5 year period. Overall, the local roads are typically well laid out with good visibility on intersection approaches. Given this it is considered that the local road network provides an acceptable level of overall road safety.
2.5 Parking Supply and Demand	
2.5.1 On-street Parking Provision	Kerbside parking is available on streets surrounding the site with restrictions associated with approaches to driveways and intersections. A 1 hour Parking sign is located on Fitzroy Street pointing north of the site.
2.5.2 Off-street Parking Provision	Off-street parking is provided within each lot for the nearby land uses.
2.5.3 Current Parking Demand and Utilisation	Observations on site indicate that there is a high demand for on-street parking during working hours with minimal demand outside of this when most of the surrounding businesses have closed. The site frontage on

Item	Comment
	Denison Street is used by a business opposite for informally parking company vehicles.
2.5.4 Short term set down or pick up areas	No set down or pick up areas are noted in the locality of the site.
2.6 Modal Split	Observations on site indicate that cycling can provide a travel option for staff working in this area. There is a bus service operating along Cowper Street providing convenient access although only operating once every 30 minutes. The ongoing growth in local dwellings including Wickham, Tighes Hill and the Newcastle city centre all support active transport options.
2.7 Public Transport	
2.7.1 Rail Station Locations	The nearest railway station is located at Newcastle Interchange 1350m walking distance to the south-west of the subject site.
2.7.2 Bus Stops and Associated Facilities	There are bus stops located on both sides of Cowper Street, west of Fitzroy Street and east of Denison Street providing access to bus service 24. On the westbound side of the road the bus stop provides a shelter and seat with the others being sign posted only.
2.1.3 Transport Services	Local bus services are provided by Newcastle Buses with Route 24: Marketown to Wallsend via Mayfield 30 minutes in peak. Newcastle Interchange provides regular daily rail services along the Central Coast and Newcastle Line (Newcastle to Sydney) and the Hunter Line (Newcastle to Scone or Dungog via Maitland) as well as a hub for other local and regional bus services and connection to the light rail.
2.8 Pedestrians Network	There is good pedestrian connectivity throughout the area with pedestrian footpaths provided along the local roads including to the bus stops on Cowper Street, the shared pathway along Throsby Creek and to local amenities within Carrington.
2.9 Other Proposed Developments	A review of the City of Newcastle DA Tracker indicates no proposed developments within the immediate vicinity of the subject site.
The Development	
3.1.1 Nature of Development	The proposed development allows for a 4-storey commercial office building with a retail element on the ground floor and office space above. • Ground floor 838.2 m^2 • 1st floor – 1,934.1 m^2 • 2nd floor – 1,965.4 m^2 • 3rd floor – 1,697.5 m^2 At grade car parking will be provided for 172 cars along with motorbike parking and bicycle storage. 138 external staff parking (rear). This includes one accessible parking space: ○ 10 external visitor parking (front) spaces. This includes one accessible parking space ○ 15 staff spaces (secure undercover) ○ eight spaces suitable for charging of electric vehicles (secure undercover) ○ 1 loading space (front). Access shall be provided to the site from both Fitzroy Street and Denison Street with connection available through the site.

Item	Comment
	Fitzroy Street shall have separated entry and exit driveways on the north and south boundaries whilst Denison Street shall allow a two-way access at the southern side of the site.
3.1.2 Access and Circulation Requirements	Driveway crossings are to be designed and located in accordance with the current relevant Australian Standard (AS2890 Parking Facilities) and shall provide adequate sight distance to traffic on the frontage road as well as pedestrians. Access driveways are to be designed to allow vehicles to enter or exit in a single turning movement and in a forward direction. The appropriate design vehicles for this site would be expected to be light vehicles and 10.8m garbage truck.
3.2 Access	
3.2.1 Driveway Location	Access to the development is proposed via a two-way driveway off Denison Street which is located near the southern boundary consistent with the historic driveway crossover. This driveway shall allow two-way movements into the subject site. A separate entry and exit driveway will be provided onto Fitzroy Street on the northern (entry) and southern (exit) boundary.
3.2.2 Sight Distances	For the posted speed limit of 50 km/hr AS2890 specifies a minimum sight distance of 45 metres with 69 metres being desirable. Both Fitzroy and Denison Streets provide a straight horizontal and vertical road alignment which ensures that there is good visibility for drivers exiting the site. Parked vehicles can impact if parked close to driveways as per normal urban driveways. Pedestrian sight visibility splays are achievable with landscaping on the site frontage on Fitzroy Street to be selected to ensure visibility splays to the footpath are maintained. The location of the driveway on Fitzroy Street is at the end of the public road and adjacent to the barrier entry to the neighbouring property. Visibility to the left for motorists exiting the subject site may be impacted by this however vehicles exiting the driveway to the left will be negotiating the driveway and security barriers and so likely to be travelling at less than the posted speed. Visibility for drivers exiting this driveway looking right extends along Fitzroy Street for more than the 69 metres desirable. For a motorist exiting onto Denison Street the sight distance requirement of 69 metres is also available to both the left and right.
3.2.3 Service Vehicle Access	Minimal servicing will be required for the site which would typically be provided by a light commercial / utility vehicle e.g. Toyota HiAce. No dedicated service area is required for the project with these vehicles being able to park within the site in a nominated loading bay. Waste is stored within the site adjacent to the southern driveway. It is proposed that a waste vehicle will enter the site from Denison Street to travel along this driveway, empty bins as required, and exit in a forward direction onto Fitzroy Street. The garbage truck will be able to enter and exit the site in a forward direction.
3.2.4 Queuing at entrance to site	Entry into the site from Fitzroy Street is a left turn which shall be able to occur without opposing traffic whilst the through volumes on Denison Street are low and shall also create minimal delays for entering drivers.

Item	Comment
	The entry gate from Denison Street will be managed to ensure free flow into the site for staff at the start of shifts with the first circulating road being one way outbound and so no delays will occur with drivers waiting to turn right into this part of the carpark. Entry from Fitzroy Street is free flowing. The driveway across the front of the site which provides access to visitor parking has traffic calming to maintain this as a shared zone for vehicles and pedestrians however this shall not cause delays for entering motorists. At the end of the workday there may be some queues within the site as staff exit. The use of two driveways along with minimal traffic on the frontage roads during the afternoon peak will see these queues clear quickly. These queues will be within the site and shall have no impact on the surrounding roads.
3.2.5 Comparison with existing site access	Access to the site shall be provided in locations similar to the historic access to the site with crossovers formalised where appropriate
3.2.6 Access to Public Transport	Pedestrian footpaths provide direct access to the nearby bus stops on Cowper Street North less than 500 metres north of the site Access to rail services at Newcastle Interchange are available either by walking with quality paths and crossings along the route (1350m) or by bus connection.
3.3 Circulation	
3.3.1 Pattern of circulation	The entry from Fitzroy Street is one way and provides access to visitor parking to the front of the site and access to secure undercover parking and parking for electric vehicles. These parking modules are accessed by one way circulating roads however as parking will be either available (visitor) or designated there is no requirement for these motorists to circulate through the site. Access is also provided from this entry to the rear of the site where the bulk of staff parking is provided. These modules have two way circulating roads except for the most easterly which provides one way north-south circulation only. The access from Denison Street provides for two-way movements to enter and exit the site as well as circulate through parking as necessary. Exit is also available onto Fitzroy Street via a one way exit driveway.
3.3.2 Internal Road Widths	The proposed driveways and circulating roads will be designed in accordance with AS2890 allowing for one-way and two-way movements as required.
3.3.3 Internal Bus Movements	No requirement for buses to access the development.
3.3.4 Service Area Layout	No dedicated service area is proposed however a parking space is provided to the front of the site for deliveries and servicing which would typically be completed by light commercial / utility vehicles e.g. Toyota HiAce. Waste management will be completed by on-site collection with waste collection vehicles able to enter and exit the site in a forward direction.
3.4 Parking	
3.4.1 Proposed Supply	Parking for the development will be provided in an at grade carpark

Item	Comment
	○ 138 external staff parking (rear). This includes one accessible parking space ○ 10 external visitor parking (front) spaces. This includes one accessible parking space ○ 15 staff spaces (secure undercover) ○ eight spaces suitable for charging of electric vehicles (secure undercover) ○ 1 loading space (front). Space for 8 motorbikes is provided as well as bicycle parking for 50 bikes and end of trip facilities.
3.4.2 Authority Parking	The design caters for parking at the rate of at least one space per 50m^2 gross floor area. Bicycle parking: 1 space per 200 m^2 GFA. Motorbike parking: 1 space per 20 car spaces
3.4.3 Parking Layout	The layout of the carpark shall be in accordance with AS2890.
3.4.4 Parking Demand	The total floor area for the development is 6,432m2. Applying the above parking rate provides a parking demand for 129 spaces. Bicycle parking: Parking for 30 bicycles (Class 2 storage) Motorbike parking: 6 spaces The parking provision in the design is considered appropriate for this particular site. • Bays allowing for electric car chargers do not form part of the parking supply as vehicles may need to move in and out of these bays and repark across the day to allow use of the chargers by other vehicles. • The end user is uncertain at this stage and there may be requirements for the end user to provide company cars for the use by staff and so the proposed parking shall need to accommodate the storage of such fleet vehicles. • Given the nature of the Port to operate 24/7 the end user may operate shifts from the offices. This requires the cumulative impact of parking to be considered, with the end of the day shift and start of afternoon typically creating the maximum demand. • The above parking rate does not allow a rate for visitors for commercial areas which often benefit from on street or public off street parking. Given the unique nature of the area and the surrounding roads and the existing high demand for on-street parking, opportunities for visitor parking cannot be assumed to be available adjacent to the site and so has been provided on site to ensure minimal impact on street.
3.4.5 Service Vehicle Parking	The demand for service vehicle parking will be minimal with these vehicles (typically light commercials such as a Toyota HiAce) being able to park in the carpark as required.
3.4.6 Pedestrian and Bicycle Facilities	The proposed development has direct access to the existing pedestrian pathways on both street frontages.

Item	Comment
Traffic Assessment	
4.1 Traffic Generation	The RTA Guide to Traffic Generating Development provides a trip rate for offices of 2 trips per 100m^2 in the PM peak only. The daily trip rate is 10 per 100m^2. • 6,432 m^2 GFA across all levels @ 2 trips per 100m^2 GFA = 129trips in PM peak and 643 trips per day. • Modal split – 5% applied for active travel These movements would be equally split between inbound and outbound across the day with 80% of trips being outbound and 20% inbound in the afternoon peak (4.45-5.45pm). During the AM the trip rate has been assessed applying 75% of trips occurring during the morning peak (8.15-9.15am). **PM Trips** / **Daily Trips** **Trips in PM (GtTGD)**: 129 / 643 **Less: Modal shift**: -7 / -32 **Development Traffic**: 122 / 611 • PM 112 trips 25 inbound 97 outbound • AM 92 trips 73 inbound 19 outbound These trips would be distributed across both Denison Street and Fitzroy Street given that access to the parking is available from both entries. It is assumed that 60% of traffic arriving would use Denison Street (55 inbound in AM) given its proximity to the staff parking with the balance (37 inbound) using Fitzroy Street given that eastbound traffic reaches this street first. Given demands for staff leaving at the end of the working day it is assumed that traffic would use both exits and so be distributed outbound on each of the two streets (48 trips outbound per street). Based on traffic surveys 90% approach from the west with all traffic exiting to the west in the afternoon. Daily the site could generate an additional 611 trips (305 inbound, 306 outbound).

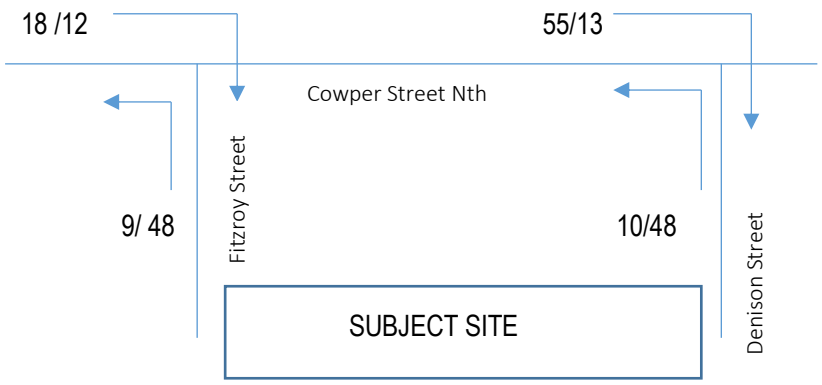

Figure 2 – AM/PM peak hour trip distribution

Item	Comment
4.1.1 Daily and Seasonal Factors	Minimal daily and seasonal variation in traffic movements associated with the development, other than normal variation between weekdays (working days) and weekends.
4.1.2 Pedestrian Movements	There will be some demands for pedestrian movements associated with staff walking to nearby bus stops and the interchange, as well as to residential dwellings in the Carrington and Wickham areas. The provision of a café within the site will provide for the demands of staff on site and if open to the public may see workers from surrounding businesses walk to the site. These movements can be catered for using the existing footpaths in the area.
4.2 Hourly distribution of trips	The majority of traffic associated with the site are expected to arrive to the site during the morning and leave at the end of the day. There would be some demand for trips throughout the day associated with visitors to and from the site as well as staff on site required to travel during the day. The working day may include shifts depending upon the end user however there is no certainty of this. These trips would typically be less than the daytime traffic demands.
4.2.1 Origin / destinations assignment	Consistent with observations on site traffic associated with the subject site would typically turn left onto Cowper Street North to join the broader road network to the west.
4.3 Impact on Road Safety	The local roads provide an acceptable level of traffic safety, with only one accident recorded in the vicinity of the site over the last 5 years. During the surveys there was no demand noted for cross traffic at Fitzroy Street. Outbound vehicles would typically turn left onto Cowper Street reducing the risk of cross movements and resulting collisions. The demand for right turns off Cowper Street into the side streets are assisted with adequate gaps in the single lane of approaching traffic and good forward visibility for approaching drivers to adjust their speed to coincide with these gaps.
4.4 Impact of Generated Traffic	
4.4.1 Impact on Daily Traffic Flows	Allowing for the traffic distribution above, the proposed development would see the two-way peak hour flows on both Denison Street and Fitzroy Street increase. Flows on both of these roads however are low with flows on Denison Street increasing to 170 vph two way in the AM and 123 vph two way in the PM. Fitzroy Street would be similar. This sees no change to the existing level of service. Denison Street has daily flows in the order of 840vpd which could increase to 1,451 vpd. Given the current daily flows on Cowper Street North of around 5,700vpd the increase in daily flows by 611 vpd would represent an increase of just less than 11%. Whilst the RTA Guide to Traffic Generating doesn't provide limits on daily traffic flows, it does provide standards for assessing the capacity of an urban road based on the maximum hourly flows. For Cowper Street, the current peak hour flows are 600 vehicles per hour two-way in the AM and 527 vehicles per hour two way in the PM, which corresponds with a Level of Service C (<600 vehicles per hour per direction). Whilst the proposed development could increase traffic flows along Cowper Street over the existing situation by an extra 73 vph eastbound in the morning and 96 vehicles per hour westbound in the afternoon there will be no change in the current level of service.

Item	Comment
	Given the low overall traffic volumes on these roads it is considered that the increased demands associated with the development would have a minimal and acceptable impact upon the local road network.
4.4.2 Peak Hour Impacts on Intersections	As outlined in Section 4.1, the peak flows generated by the proposed development will be distributed across the intersections of Cowper Street with Fitzroy Street and Denison Street. Both of these intersections operate well with minimal delays for traffic entering and with most traffic exiting by turning left onto Cowper Street there are minimal delays caused. A Sidra assessment has been undertaken to confirm that the right turns into Denison Street can occur in a safe manner with adequate capacity to accommodate the additional peak hour demands. Details are provided below. The intersection of Fitzroy Street and Cowper Street is expected to operate in a similar manner given that development flows are less than those applied to Denison Street.
4.4.3 Impact of Construction Traffic	Although the site is constrained it is considered that there would be adequate space within the site to accommodate the majority of construction needs. Parking for construction staff will require consideration as the site is developed.
4.4.4 Other Developments	No developments of significance in the vicinity of the site.
4.5 Public Transport	
4.5.1 Options for improving services	No upgrades required
4.5.2 Pedestrian Access to Bus Stops	Existing footpaths along the local roads provide good connectivity to the nearby bus stops
4.6 Recommended Works	
4.6.1 Improvements to Access and Circulation	New driveways shall be designed and constructed in accordance with AS2890.
4.6.2 Improvements to External Road Network	No changes required.
4.6.3 Improvements to Pedestrian Facilities	None required.
4.6.4 Effect of Recommended Works on Adjacent Developments	No works proposed that will impact on adjacent developments.
4.6.5 Effect of Recommended Works on Public Transport Services	Nil.
4.6.6 Provision of LATM Measures	None Required
4.6.7 Funding	All works on site shall be funded by the developer.

Intersection Capacity Assessment

The intersection of Denison Street and Cowper Street has been modelled using *Sidra* to assess its current standard of operation and efficiency and determine the potential impacts associated with the change in traffic demands through this intersection created by the proposed development. The results of this assessment are provided below.

Table 1 - Base 2021 AM / PM existing traffic demands

Approach	Level of Service	Delay (seconds)	Queue (metres)
Denison Street	A / A	6.9 / 6.4	1.0 / 0.8
Cowper Street (eastern approach)	A / A	5.6 (left turn)	0.0 / 0.0
Cowper Street (western approach)	A / A	6.8 (right turn) / 6.5 (right turn)	3.0 / 1.3

Note: results for AM / PM peak periods

Table 2 - 2021 base plus development flows

Approach	Level of Service	Delay (seconds)	Queue (metres)
Denison Street	A / A	8.9 / 6.4	1.2 / 1.8
Cowper Street (eastern approach)	A / A	5.6 (left turn) / 5.6	0.0 / 0.0
Cowper Street (western approach)	A / A	6.8 (right turn) / 6.5 (right turn)	5.3 / 1.9

The above results confirm the on-site observations that the intersection of Cowper Street and Denison Street operates very well and has adequate capacity to cater for the development traffic flows.

3. Site Photos

Photo 1 –Looking south showing cross section of Fitzroy Street with site on left and terminus of road with driveway into Hales

Photo 2 – View looking right (north) along Fitzroy Street

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4. Conclusion

From the site work undertaken and the review of the development proposal and associated plans against the requirements of the RTA Guide to Traffic Generating Developments and Austroads Guide to Traffic Management, it is considered that the proposed development application should have no objections raised on traffic and access grounds. The additional traffic movements generated by the development during the critical afternoon peak is within the capacity of the local streets and shall not impact the existing level of service. The key impact is for the project is the impact on the intersection of Cowper Street and Denison Street and the Sidra modelling above demonstrates that this can occur with a minimal change to the level of congestion for road users. The provision of accesses to the site from both Denison and Fitzroy Streets reduces the impact at any one intersection.

The driveways shall be provided in a similar location to the past accesses to the site and shall allow for all vehicles to enter and exit the site in a forward direction. Sight lines at the proposed driveways are consistent with the requirements of AS2890.

Parking for the site has taken into consideration the unique nature of the site within the Port of Newcastle and the uncertainty of the future end user. The parking provision is therefore considered appropriate for the site allowing for the potential for shift demands as well as the storage of company fleet vehicles. This coupled with the provision of visitor parking on site ensures the proposed development will not have a negative impact on the existing high on street parking demands.

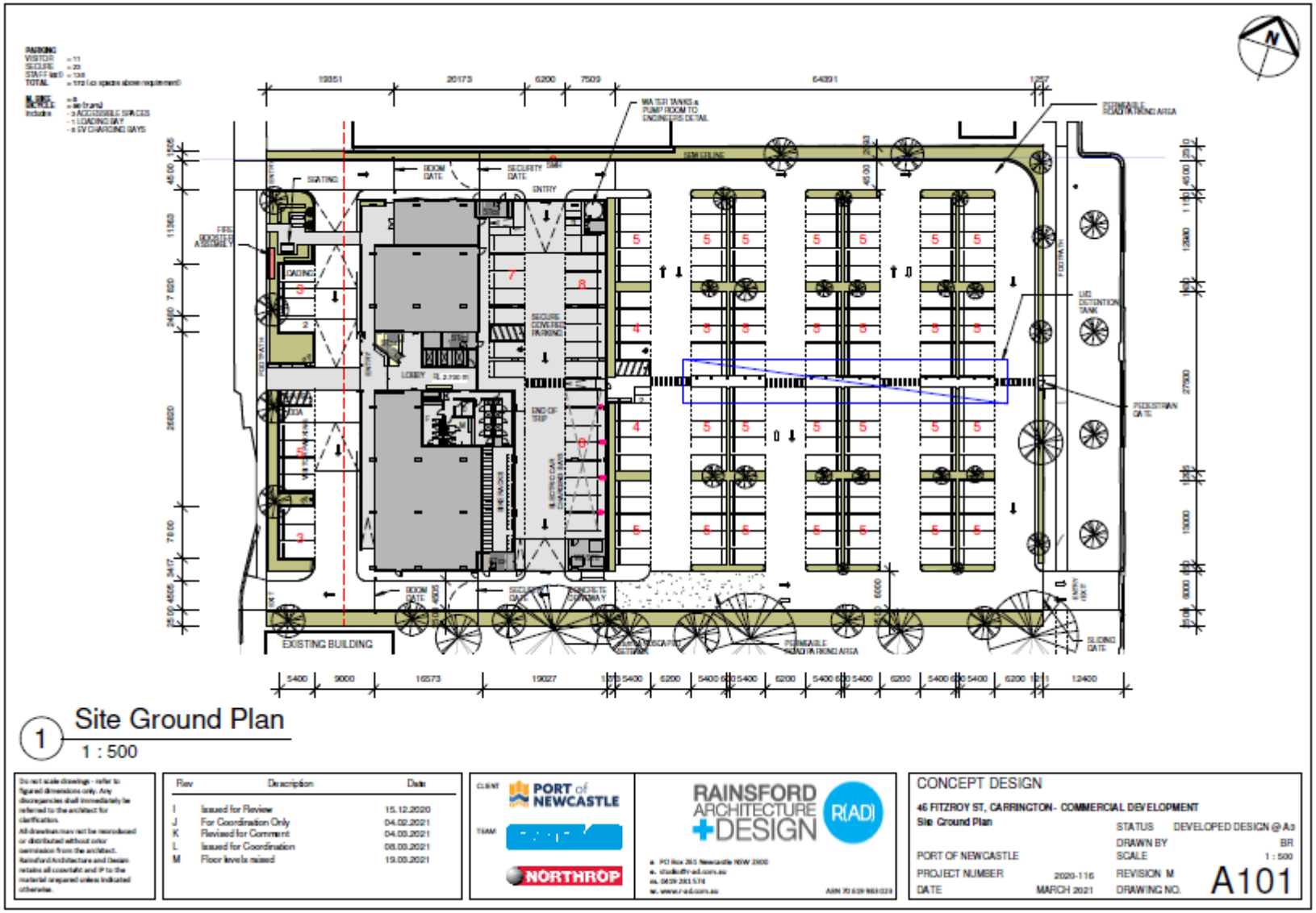
Please feel free to contact me on 4032 7979, should you have any queries.

Yours sincerely,

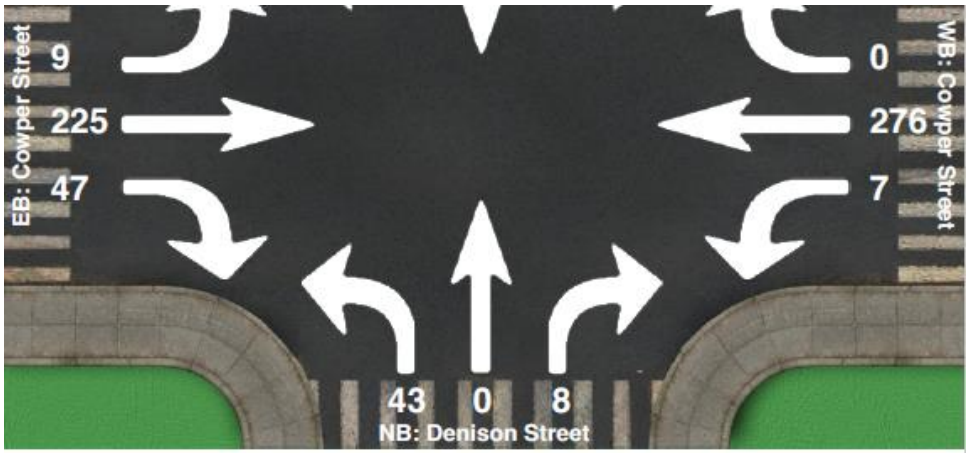
Sean Morgan
Director

Attachment A: Achitectural Plans
Attachment B: Traffic Surveys

Attachment A: Site Plan



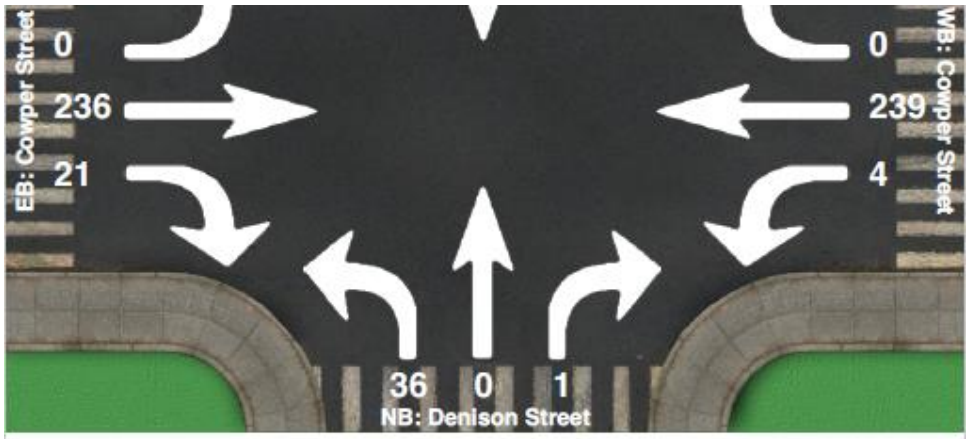
Attachment B: Traffic Surveys



Intersection Peak Hour

08:15 - 09:15

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	7	276	0	43	0	8	9	225	47	615
Factor	0.00	0.00	0.00	0.29	0.92	0.00	0.83	0.00	0.50	0.75	0.95	0.90	0.96
Approach Factor	0.00			0.93			0.80			0.95			



Intersection Peak Hour

16:45 - 17:45

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Vehicle Total	0	0	0	4	239	0	36	0	1	0	236	21	537
Factor	0.00	0.00	0.00	0.50	0.79	0.00	0.82	0.00	0.25	0.00	0.89	0.66	0.94
Approach Factor	0.00			0.79			0.77			0.87			