

Construction Traffic Management Plan

Project Nerio, Eastern Creek

Lot 1, Eastern Creek Drive, Eastern Creek

2/12/2022

P1570r06v4

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APPENDICES

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1 Introduction

1.1 Introduction

Ason Group have been engaged by Qanstruct to prepare a Construction Traffic Management Plan (CTMP) for the construction of a warehouse and distribution centre at Lot 1 (DP1274322) Eastern Creek Drive, Eastern Creek (the Site). This CTMP details the measures and strategies to be undertaken during construction to minimise the effects of work on the surrounding road network, and to ensure the safety and efficiency of the community, all workers, and all road users.

Construction shall not commence until this CTMP is approved by the Planning Secretary; and the most recent approved version of the CTMP must be implemented for the duration of construction. A Construction Environmental Management Plan (CEMP) has been prepared separately.

1.2 Project Representatives & Stakeholders

This report has been prepared by a consultant who holds a SafeWork NSW Work Health & Safety Traffic Control Work card, accredited for the 'Prepare a Work Zone Traffic Management Plan.' Details of the accredited consultant is provided below:

- James Laidler SafeWork NSW No. TCT0031686

This Construction Traffic Management Plan has been prepared to meet the requirements outlined in Appendix A and Appendix E, Section E.2 of the Transport for NSW Traffic Control at Work Sites Technical Manual (Issue No. 6.1, 2022).

Through the preparation of this CTMP, the project representatives and stakeholders consulted in the development of the traffic management strategy are listed below:

TABLE 1: PROJECT REPRESENTATIVES AND STAKEHOLDERS

Name	Organisation	Role
Qanstruct	Charlie Rico	Project Director
	Jack Wright	Project Manager
	Victoria Halls	Senior Contracts Administrator
	Joshua Sacco	Contracts Administrator
	Matthew Gordon	Senior Site Manager
Ason Group	Dr. Ali Rasouli	Principal Traffic Engineer
	James Laidler	Senior Traffic Engineer

1.3 Statuary Requirements

The following SSD conditions have been received with respect to construction traffic management specific for the Site under SSD-30923027.

TABLE 2: SSD-30923027 COMPLIANCE TABLE

Ref	SSD Condition Requirement	Response
B1	Prior to the commencement of construction of the development, the Applicant must prepare a Construction Traffic Management Plan for the development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:	-
a)	be prepared by a suitably qualified and experienced person(s)	Consultants from Ason Group are suitably qualified Traffic Engineers, with relevant "Prepare a Work Zone Traffic Management Plan" accreditation. See Section 1.2
b)	detail the measures that are to be implemented to ensure road safety and network efficiency during construction,	Traffic generation is provided in Section 4.1. No "modelling" of the network is necessary noting that the construction traffic is less than the future operational traffic endorsed by the development approval. Section 4.3 concludes that construction traffic can be satisfactorily mitigated and will not have a material impact on the road network. Traffic Guidance Schemes (TGSs) shall be developed for all works that impact public roads and approved by the Transport for NSW (TfNSW) Traffic Management Centre. Deliveries shall occur within the construction hours as outlined within Section 2.2 A detailed plan, including trigger points and associated measures is included in Section 5.3 which clearly demonstrates measures to ensure road network efficiency.
c)	detail heavy vehicle routes, access and parking arrangements;	The site access arrangements – relevant to each stage - are outlined in subsequent sections of this report (Refer Section 2.3). An internal vehicle movement plan has been provided which outlines that access, parking and internal movements during construction – refer to Figure 5 Figure 5: Internal Vehicle Movement Plan - Stage 1
d)	Include a Driver Code of Conduct to: (i) minimise the impacts of earthworks and construction on the local and regional road network; (ii) minimise conflicts with other road users; (iii) minimise road traffic noise; and (iv) ensure truck drivers use specified routes;	A Driver Code of Conduct has been outlined within Section 3.7 , and then provided within Appendix A
Fe)	include a program to monitor the effectiveness of these measures; and	The Contractor shall include a program to monitor deliveries and vehicle logs. Refer to Section 5 for more information.
f)	If necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.	A communication strategy has been prepared and consists of details for notifying key stakeholders. See Section 5.4
B2	The Applicant must:	-

a)	not commence construction until the Construction Traffic Management Plan required by condition B1 is approved by the Planning Secretary; and	Noted and reiterated in Section 1.1
b)	implement the most recent version of the Construction Traffic Management Plan approved by the Planning Secretary for the duration of construction.	Noted

1.4 Project Details

This CTMP has been prepared to cover the construction and 24/7 operation of a warehouse and distribution centre at Lot 1 Eastern Creek Drive, Eastern Creek, comprising:

- minor earthworks involving cut and fill works;
- site preparation works and servicing;
- warehouse, main office, ancillary office, dock office, loading docks, carparking, forklift charging room;
- external hardstands and landscaping;

1.4.1 Proposed Construction Activity / Works

The proposed construction activities are part of the detailed construction phasing, and as such, this CTMP shall outline the works involved and the applicable traffic management measures.

TABLE 3: STAGES & PHASES OF CONSTRUCTION

Stage	Description	Duration
1	Civil Infrastructure Works	27 weeks
2	Structure, Façade & Services	29 weeks
3	Architectural & Landscaping	12 weeks

1.4.2 Site Location

At a regional level, the Site is located approximately 35 kilometres west of the Sydney CBD and 15 kilometres west of the Parramatta CBD. It is within the Local Government Area (LGA) of Blacktown City Council.

TABLE 4: SITE DESCRIPTION

Address	Title	Area (Ha)
Lot 1	Lot 1 / DP 1274322	4.81

1.5 Site Related Data

1.5.1 Road Details

Key roads in the vicinity of the Site are shown in **Figure 1** summarised within **Table 5**. It is clear that the Site is well located in regard to immediate access to the local and sub-regional road network.

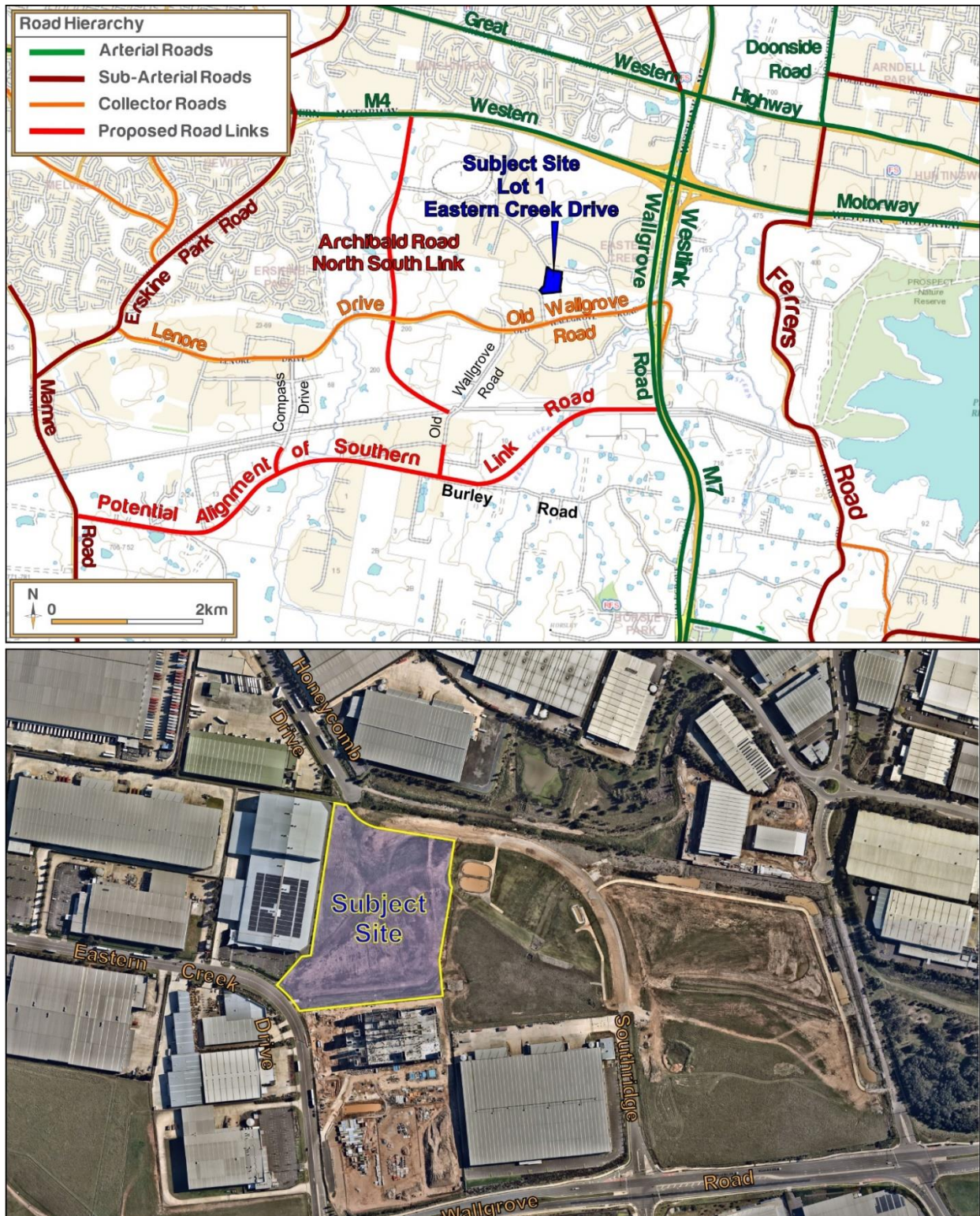


Figure 1: Site context and Road Hierarchy

TABLE 5: LOCAL ROAD NETWORK

Road Name	Section	Speed Limit	Parking	Traffic Volumes and Peak Times	Urban / Rural
Old Wallgrove Road	Between Easter Creek Dr & Wallgrove Rd	80km/hr	No	-	Urban
Wallgrove Road	Between M4 Motorway & Old Wallgrove Rd	80km/hr	No	-	Urban
Honeycomb Drive	Between Site Access & Wonderland Dr	50km/hr	Yes Both Sides	-	Urban
Wonderland Drive	Between Honeycomb Dr & Wallgrove Rd	50km/hr	Yes Both Sides	-	Urban
Eastern Creek Drive	Whole Road	50km/hr	Yes Both Sides	-	Urban

1.5.2 Crash History

A review of RMS' crash database (now Transport for NSW (TfNSW)) has been undertaken to establish the crash history in the vicinity of the Site; the crash history for the 5-year period 2015 to 2020 (inclusive) is outlined below.

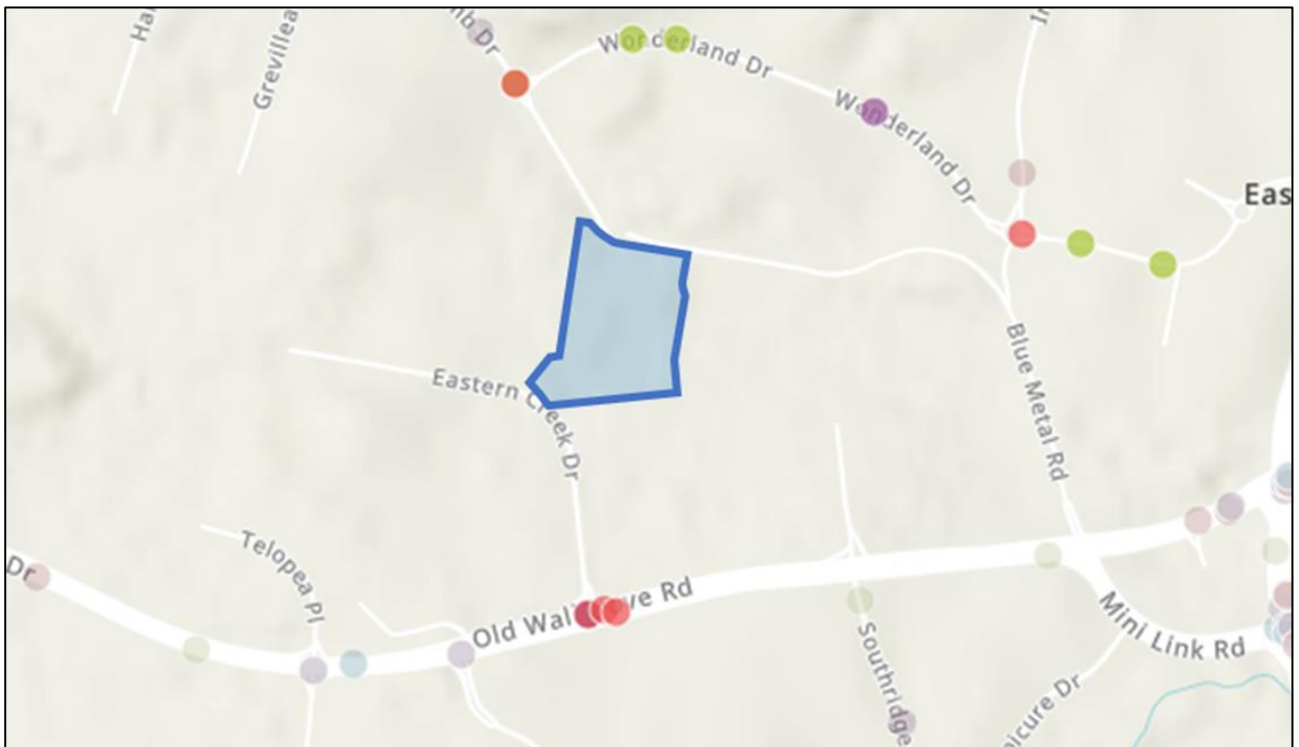


Figure 2: Crash History Surrounding the Site

Of those crashes, the ones that occurred on Eastern Creek Dr and Honeycomb Dr, fronting the Site, as well as those along Eastern Creek Dr and Honeycomb Dr can be seen below.

TABLE 6: CRASH HISTORY

Year	Location	RUM Code ¹	Injury/Death
2016	Wonderland Dr	71 – Off Road left into object	1x Injury
2017	Wonderland Dr	47 – Emerging from driveway	1x Injury
	Wonderland Dr	20- Head on	1x Injury
2018	Corner of Eastern Creek Dr & Old Wallgrove Rd	60 – Parked Car	-
	Intersection of Wonderland Dr & Interchange Dr	84 - Off road right, left bend into object	-
2019	Wonderland Dr	81 - Off Road left, right bend into object	1 x Injury
	Intersection of Wonderland Dr & Interchange Dr	35 – Lane change	-
2020	Corner of Eastern Creek Dr & Old Wallgrove Rd	71 – Off Road left into object	-
	Corner of Eastern Creek Dr & Old Wallgrove Rd	73 – Off Road right into object	-
	Corner of Honeycomb Dr & Wonderland Dr	88 – Out of control in bend	-
	Wonderland Dr	47 – Emerging from driveway	1x Injury

Source: RMS Crash Statistic Website

These crash statistics outline that there is no direct safety issue along the proposed road network in the vicinity of the Site frontage or access road, with 11 crashes over the last 5-year reporting periods, and none of them as a direct result of the interaction with the Site's access.

1.5.3 Vulnerable Road Users

Vulnerable road users (VRU) are road users not in a car, bus or truck. In the event of a crash, VRUs have little to no protection from crash forces, therefore, need to be addressed within this CTMP. **Table 7** provides context to VRU's surrounding the Site.

TABLE 7: PUBLIC AND ACTIVE TRANSPORT

Road Name	Pedestrian	Cycling	Public Transport
Old Wallgrove Road	Yes	No	No
Wallgrove Road	No	No	No
Honeycomb Drive	Yes	Yes	No
Wonderland Drive	Yes	Yes	Yes
Eastern Creek Drive	No	No	No

1.6 Stakeholder Engagement

1.6.1 Stakeholder Engagement Plan

Qanstruct will liaise with relevant stakeholders regarding construction schedules and trucks routes and will raise any potential conflict with stakeholder at the earliest time. Stakeholder consultation actions required by Qanstruct are detailed below.

1.6.2 Stakeholder Notification

In the event that any disruptions to public roadways / footpath occur as a result of construction works, the procedure outlined below is to be followed:

- In the event that disruptions to roadways / footpaths are required, then Council / TfNSW is to be notified first and depending on the extent of the disruption the contractor is to notify affected property occupiers through letter drops and Variable Message Sign (VMS)
- If any unforeseen disruptions to roadways / footpaths occur, Council / TfNSW is to be notified first and depending on the extent of the disruption the contractor is to notify affected property occupiers via traffic controllers and Variable Message Sign (VMS)
- In the event that heavy vehicle damage to Council / TfNSW assets / infrastructure, contractors will notify Blacktown City Council's Traffic & Transport team and / or Assets Branch.

TABLE 8: STAKEHOLDER CONSULTATION ACTIONS

Stakeholder	Action
TfNSW	Qanstruct to submit CTMP to stakeholder. Qanstruct to liaise with stakeholder to address comments and re-submit final CTMP
Blacktown City Council	Qanstruct to submit CTMP to stakeholder. Qanstruct to liaise with stakeholder to address comments and re-submit final CTMP
NSW Police	Qanstruct to submit CTMP to stakeholder. Qanstruct to liaise with stakeholder to address comments and re-submit final CTMP
Emergency Services	Qanstruct to attend fortnightly meetings with TfNSW and Emergency Services

2 Proposed Works and Staging

2.1 Overview of Works

The works proposed are to undertake the construction of a warehouse and distribution centre at Lot 1 Eastern Creek Drive, Eastern Creek. The stages of works are shown below. It is estimated that the total duration of the construction works will be approximately 9 months from the commencement

TABLE 9: STAGE 1 SUMMARY

Criteria	Response
Description of Key Activities	Civil Infrastructure Works (Mar 2022 – Nov 2022)
Max. Vehicle Size	Semi-Trailer
Vehicle Movement Frequency	Approximately 100 light vehicle movements / day + Approximately 200 heavy vehicle movements / day
Truck Access Requirements	All vehicles shall access via Honeycomb Drive
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y – All parking internal
Pedestrian Control	Fencing to the perimeter of the Site with 1.8 m manproof on property boundary
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Refer below.

TABLE 10: STAGE 2 SUMMARY

Criteria	Response
Description of Key Activities	Structure, Façade & Infrastructure Services (Dec 2022 – Jun 2023)
Max. Vehicle Size	20.0m Articulated Vehicles
Vehicle Movement Frequency	Approximately 100 light vehicle movements / day + Approximately 50 heavy vehicle movements / day
Truck Access Requirements	All vehicles shall access via Honeycomb Drive
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y – All parking internal
Pedestrian Control	Fencing to the perimeter of the Site with 1.8 m manproof on property boundary
Public Transport Services Affected	N
Road Occupancy Requirements (if yes, provide further details)	N
Lane or Footpath Closures (if yes, provide further details)	N
Traffic Guidance Scheme	Refer below.

TABLE 11: STAGE 3 SUMMARY

Criteria	Response
Description of Key Activities	Architectural & Landscaping (Jun 2023 – Aug 2023)
Max. Vehicle Size	12.5m Heavy Rigid Vehicles
Vehicle Movement Frequency	Approximately 200 light vehicle movements / day + Approximately 10 heavy vehicle movements / day
Truck Access Requirements	All vehicles shall access via Honeycomb Drive
Vehicle access / egress in a forward direction (Y / N)	Y
Out of Hours Deliveries (Y/N)	N
Contractor Parking	Y – All parking internal
Pedestrian Control	Fencing to the perimeter of the Site with 1.8 m manproof on property boundary
Public Transport Services Affected	N
Road Occupancy Requirements (If yes, provide further details)	N
Lane or Footpath Closures (If yes, provide further details)	N
Traffic Guidance Scheme	Refer below.

2.2 Construction Hours

Based on the information provided to Ason Group, a summary of the construction hours is shown in **Table 12** which is in accordance with the Council conditions:

TABLE 12: HOURS OF WORK

Activity	Day	Time
Rehab Works	Monday – Friday	7 am to 6 pm
	Saturday	7 am to 1 pm

No work Sundays or Public Holidays.

It is anticipated that construction works will not be conducted outside of the hours outlined above. Should out of work hours be required, Qanstruct will lodge an application for an Out of Work Hours Permit with Blacktown City Council to seek approval for these works. The type of works that might be undertaken outside the recommended standard hours are:

- The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads
- Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm
- Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours
- Public infrastructure works that shorten the length of the project and are supported by the affected community
- Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.

2.3 Truck Routes

It is proposed that construction vehicles enter and exit the Site via the routes shown in **Figure 3**. A copy of the truck route maps shall be provided to all drivers prior to attending the Site.

All construction vehicles will enter and depart the Site from / Honeycomb Drive to the north of the Site.

The access and egress routes are to be utilized by all construction vehicles associated with the Site and represents the shortest route between the local and arterial road network – hence minimising the impacts of the civil and construction phases. No trucks are to be queued on local roads. Mobile phones, two-way radios or application-based solutions should be used to coordinate truck arrivals.

Further to the above, the TfNSW Restricted Access Vehicles (RAV) Map illustrates that b-doubles are capable of traveling to and from the Site within approved routes, which allow for up to 25m/26m B-Double combinations.

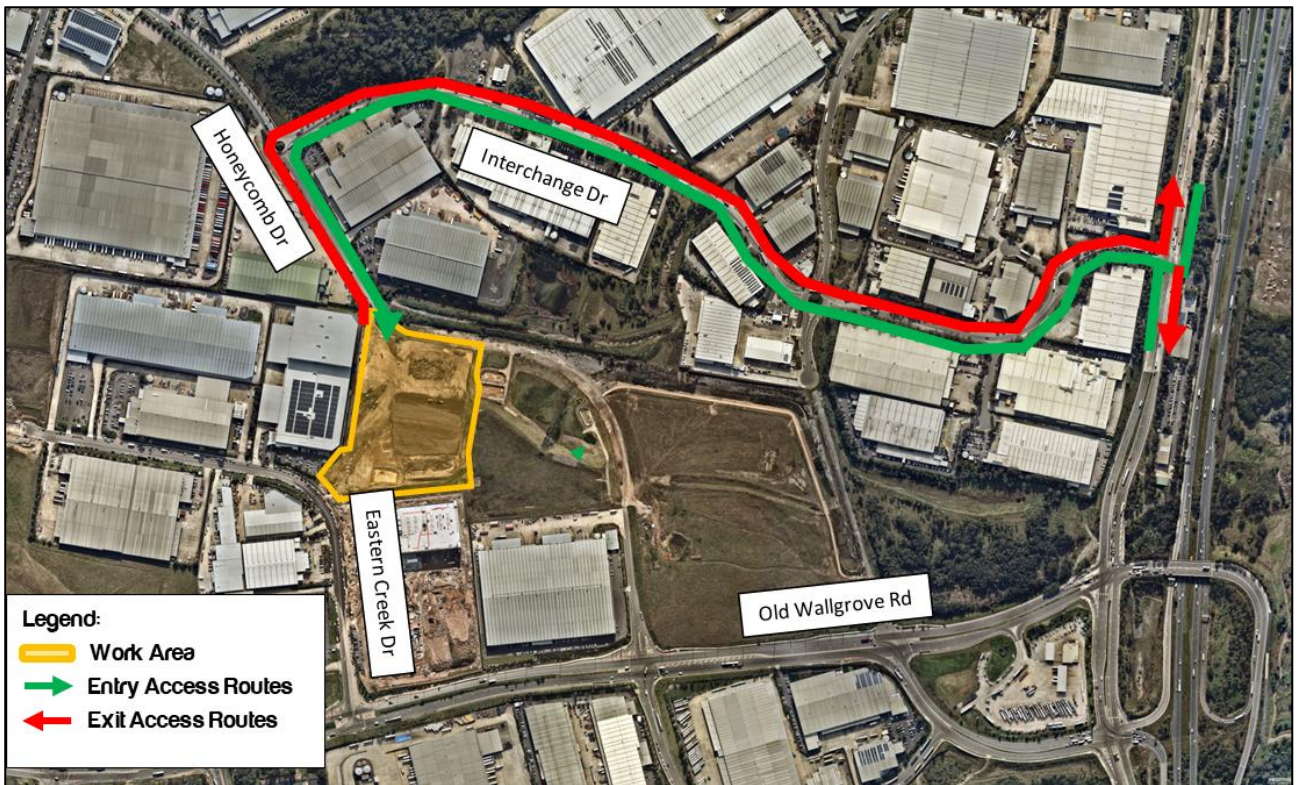


Figure 3: Construction Vehicle Route Map

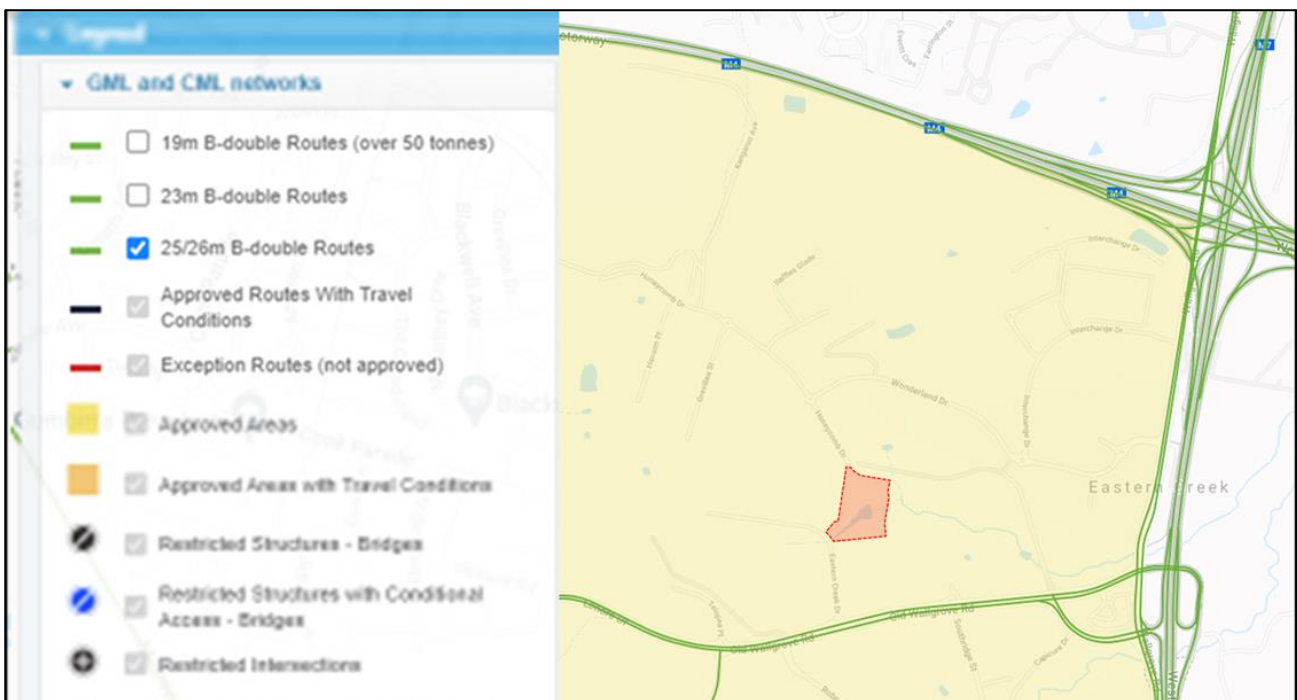


Figure 4: Restricted Access Map

2.4 Temporary Traffic Management Method

Currently, there is no requirement for temporary traffic control, as the signalised intersection has safe and effective movements for both pedestrians, cyclists and motorists through timed signals.

2.5 Site Access

All construction vehicles will enter and depart the Site from / to Honeycomb Drive.

It is anticipated that the largest typical vehicles accessing the Site would be a 20 m Articulated Vehicles (AV), 19 m truck and dog trailers and 12.5 m Heavy Rigid Vehicles (HRVs). This access has been illustrated above in Figure 3..

2.5.1 Emergency Vehicle Access

Emergency vehicle access to and from the Site will be available at all times while the Site is occupied by construction workers; emergency protocols during the works will be developed by the WHS Manager and Site Manager, as per the WH&S Management Plan prepared by Qanstruct.

2.6 Risk Assessment

A risk assessment is aimed to identify the hazards and risks associated with the works. The purpose of this risk assessment is to determine the controls required for the protection of the road workers and road users. A Risk assessment has been completed and is attached in **Appendix C**.

2.7 Works Zone

No Works Zones along Eastern Creek Drive or Honeycomb Drive are proposed. All Civil and Construction Works will take place within the work site.

In the event that the implementation of any temporary traffic control measures on public road/road related area the contractor will obtain a Road Occupancy Permit (ROP) from Blacktown City Council. If excavation and/or road opening works on a public road is required, the contractor will obtain a Road Opening Permit.

2.8 Site Contact

The Site contact has been outlined below

- Matthew Gordon 0421 000 517

3 Traffic Management

3.1 Traffic Movements

3.1.1 Background

The traffic report (Ason Group Ref: 1570r03v4) supporting the development, outlined that the traffic modelling undertaken for the now completed Old Wallgrove Road Upgrade Project adopted the following trip generation rates, as detailed in the GHD Report:

- Creek Precinct: 21 trips per hectare for two-hour peak period,

The subject Site is located within the Eastern Creek Precinct, which was forecast by GHD to generate traffic at a rate of 21 trips per hectare over a two-hour peak period, or approximately 10.5 trips per hectare during the peak hour. The intersections surrounding the Site have been upgraded as part of the Old Wallgrove Upgrade to cater for this level of traffic generation.

The Site comprises approximately 4.8ha of land. Application of the GHD trip rate to this area results in a forecast traffic generation of 51 vehicle trips per peak hour.

In more recent times, assessment of traffic impacts within WSEA have adopted rates based upon the building area (as opposed to site area). For example, the MRP assessments have adopted the following rates:

- AM Peak 0.23 trips per 100m² GFA
- PM Peak 0.24 trips per 100m² GFA
- Daily Total 2.91 trips per 100m² GFA

The application of the above rates to the proposed development, which provides for a GFA of 23,600m² in area, provides an estimated trip generation of:

- AM Peak 54 movements per hour (movements, in & out combined)
- PM Peak 57 movements per hour (movements, in & out combined)
- Daily Total 687 daily movements (movements, in & out combined)

For the purpose of this report, 1 truck is equal to 1 inbound movement plus 1 outbound movement which equals to a total of 2 movements.

For consistency, the assumptions made within the WSEA and GHD traffic modelling informed the road network (which has now been delivered) and is therefore capable of accommodating that volume of traffic generation from the Site.

3.1.2 Current Construction Traffic Estimates

The anticipated vehicle movements generated by the construction of the Site have been estimated having consideration of the likely requirements for construction staff, plant, equipment, and haulage. The anticipated construction schedule has been provided by the contractor, with the estimated traffic volumes are as follows:

- Construction Works – up to 340 light vehicle movements per day and 210 heavy vehicle movements per day (including truck and dog and 3 tonne rigid trucks) shall access the Site, although not in the same time period per day. Notwithstanding the estimated maximum daily construction vehicle generation is up to 550 vehicle movements per day.

For reference, the definitions of light and heavy vehicles are as follows.

- Light Vehicles: For the purpose of this report a light vehicle is a car, ute, or four-wheel drive that relates to the construction works of the site.
- Heavy Vehicle: For the purpose of this report, a heavy vehicle ranges from (but is not limited to) a 12.5m Heavy Rigid Vehicle (HRV) up to a 20.0m Articulated Vehicle that relates to the construction works of the site.

For reference, a construction vehicle would relate to all contracted parties involved in day-to-day construction activities on site. This would include.

- All Vehicles making material deliveries to and from the Site.
- All Contractors and their sub-contractor's construction site vehicles
- All construction staff working on the projects arriving / departing the Site in private cars.

In turn, the following are exempt from the requirements of the CTMP (as they are not part of construction works within the Site).

- All Qanstruct staff and their design / management consultants
- Food vans / food deliveries by non-contracted parties
- Relevant Authorities / Agencies (including DP&E or Blacktown City Council/, and other stakeholders including Endeavour Energy, TransGrid, Sydney Water, NBN or others who have assets on the site)
- Members of the public who may drive in ad hoc.

3.2 Vehicle Management

In accordance with TfNSW requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any large items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. All drivers are to be familiar with the Driver Code of Conduct before attending the Site. A copy of the Code is included in **Appendix A**

All subcontractors must be inducted by Qanstruct to ensure that the procedures are met for all vehicles entering and exiting the construction site. Qanstruct will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicle movements to, from and within the site shall do so in a manner, which does not create unreasonable or unnecessary noise or vibration. No tracked vehicles will be permitted or required on any paved roads. Public roads and access points will not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances.

At no stage shall queueing occur on the public road network. It is expected that a schedule for deliveries of materials and goods will be established prior to that day, with Traffic Controllers maintain radio contact with construction vehicles at all times.

3.3 Contractor Parking

Contractors will likely drive since there is no easily accessible public transport in close proximity to the Site. Onsite parking will be available at all times throughout the construction periods. Notwithstanding, parking areas will be shifted to accommodate the changing nature of the construction works. As such, Stage 1 works parking and internal vehicle movement plans are outlined below.



Figure 5: Internal Vehicle Movement Plan - Stage 1

Suitable pedestrian connectivity shall be maintained between the work areas and this contractor parking at all times.

3.4 Pedestrian and Cyclist Management

There is no footpath along Eastern Creek Road, fronting the Site. There is 2.5m wide shared path along Honeycomb Drive. In the unlikely event that there are pedestrians or cyclists wanting to cross the access driveway, then all vehicles shall be stopped before exiting the Site prior to pedestrians crossing the access.

Should any unforeseen activities require the temporary closure of any pedestrian access, a Traffic Guidance Scheme (TGS) should be developed and implemented by the contractor to ensure a safe alternative for pedestrians traversing these routes in the vicinity of the site.

3.5 Fencing Requirements

Fencing requirements will consist of fencing to the perimeter of the Site with a 1.8 m man-proof fence on the property boundary. The fencing is to ensure unauthorised persons are kept out of the Site.

3.6 Traffic Control

Site-specific TGS's shall be developed and submitted to Council for approval, as required, to reflect specific work activities and/or changes to road conditions.

Control of traffic is to be undertaken throughout each stage of the project. The responsibilities of personnel controlling traffic shall include:

- Implementation of the Traffic Guidance Scheme
- Restrict access to the Site to only construction workers and other personnel working within the Site.
- Pedestrian and cyclist management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur.
- Supervision of all vehicle movements across pedestrian footpaths at all times, and
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project.

It is expected that any control of traffic on, or from public roads shall be done so by personnel who have obtained an *Implement a Traffic Control Card*.

3.7 Driver Code of Conduct

All drivers shall adhere to the Driver Code of Conduct, outlined in **Appendix A**.

3.8 Worker Induction

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

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

3.9 Council Permits

The applicant is required to apply for the following permits with Council for the following activities, which affect Council assets:

- **Road Use Permit** - The applicant shall obtain a Road Use Permit where any area of the public road or footpath is to be occupied as construction workspace, other than activities covered by a Road Opening Permit or if a Work Zone Permit is not obtained. The permit does not grant exemption from parking regulations.

4 Transport Impact Assessment

4.1 Construction Traffic Generation

As discussed above, the construction works are expected to generate up to 550 vehicle movements per day. Vehicle movements will be spread generally throughout the day; however, the majority of works will typically generate peak hourly traffic before and after the 'network peak' periods (as outlined within Section 3.1.1).

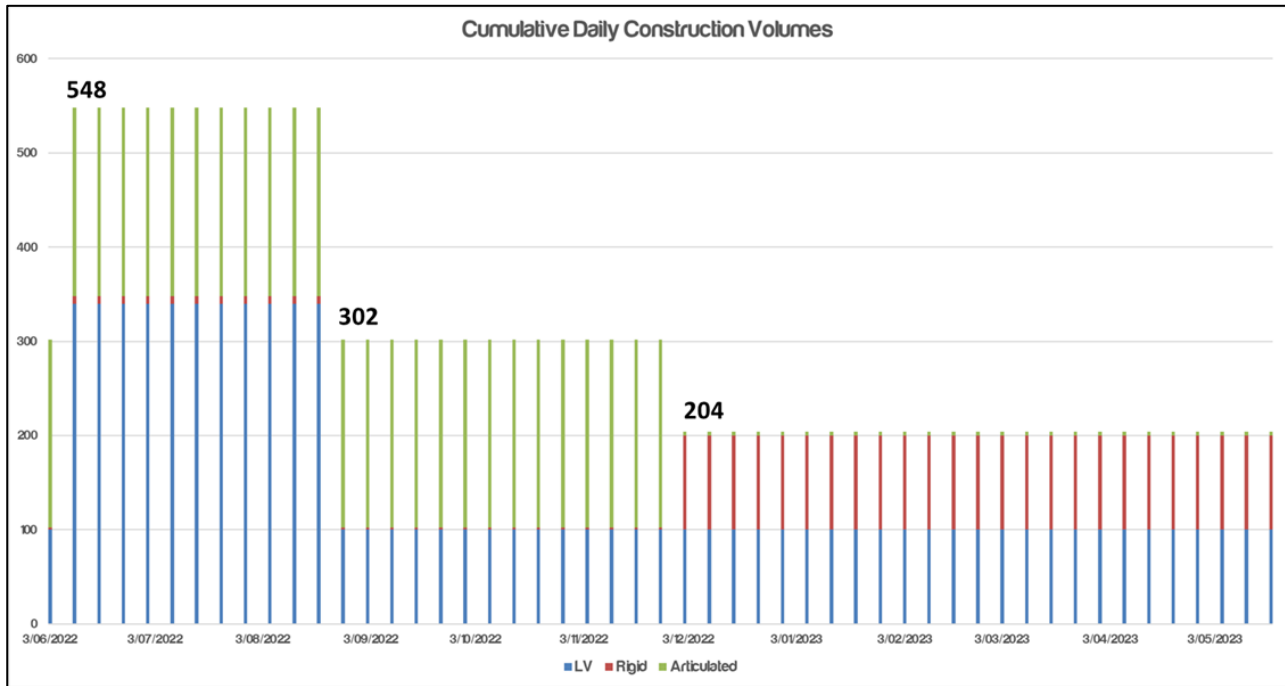


Figure 6: Construction Vehicle Volumes

4.2 Impacts on Surrounding Network

The impacts of construction traffic and the mitigating measures to be implemented are outlined below.

- **Construction Traffic:** Construction traffic is substantially less than the approved future operational traffic volumes and will therefore not create any unacceptable impacts on the surrounding road network.
- **Safety During Construction:** Safety to motorists and pedestrians throughout the area will be maintained during construction through the preparation and execution of Traffic Guidance Schemes Plans (TGS's) if work is to occur on/close to the public roadway. A range of TGS's can be prepared for each access throughout construction, to identify all reasonably foreseeable hazards, assess the hazards, and manage the hazards as best possible by either eliminating or minimising the risks. TGS's shall be monitored and updated accordingly throughout the project.
- **Reporting:** Reporting and monitoring of movements is to be undertaken to ensure that drivers are adhering to approved construction hours, and to ensure that the approved traffic generation, and subsequent impacts on the road network, are in line with those approved.

In summary, based on the traffic numbers currently envisaged, the traffic impacts are considered acceptable.

4.3 Traffic Impact

The above relates to construction traffic associated with the construction of a warehouse, and associated infrastructure.

The cumulative volumes of this project against the WSEA and GHD approved daily volumes of the Site only is 687 veh/day. Notwithstanding, the above demonstrates that volumes are significantly lower than these volumes, which suggests that the construction impacts shall not create any unacceptable traffic impacts to the road network. As such, the existing infrastructure designed and constructed is sufficient to cater for the proposed traffic volumes.

5 Monitoring and Review

5.1 Monitoring Program

This CTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator. Review of the CTMP shall occur monthly. All and any reviews undertaken should be documented, however key considerations regarding the review of the CTMP shall be:

- Tracking deliveries against the volumes outlined within report. Deliveries will be tracked against approved volumes and will keep a vehicle log for the purpose of assessing the effectiveness of these monitoring programs.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TGS's are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" card holders to ensure they remain consistent with the set-up on-site.
- Regular checks to ensure all loads are entering and leaving site covered as outlined within this CTMP.
- A Dilapidation report shall be undertaken every periodically to assess the condition of the road and note whether there has been any reduction in quality of the road as result of construction vehicles.

The development of a program to monitor the effectiveness of this CTMP shall be established by the Contractor. This process is expected to form part of the monitoring plan required to be included as part of the overarching Construction Environmental Management Plan (CEMP), of which this CTMP forms a part. The roadway (including footpath) must be kept in a serviceable condition for the duration of construction. At the direction of Council, undertake remedial treatments such as patching at no cost to Council.

5.2 Work Site Inspections, Recording and Reporting

Recording and reporting of the monitoring programs shall be done in accordance with Section E.3, E.4 and E.5 of the TCAWs Manual. As such, the structure, schedule, and frequency of these activities have been considered and identified.

To inspect, review and audit the temporary traffic management (TTM) arrangements implemented on site, the following actions are to be undertaken by suitably qualified personnel in accordance with TCAWS 6.1 requirements during all phases of construction, being:

TABLE 13: EXAMPLE REVIEW OF ACTIVITIES

Activity			Frequency or Details
Shift Inspections	☐ Yes	☐ No	
Weekly Inspections	☐ Yes	☐ No	
TMP Review	☐ Yes	☐ No	
Road Safety Audit	☐ Yes	☐ No	
Other	☐ Yes	☐ No	
Comments			

Given that the length of construction and that no regular works have been proposed outside of the site, monthly TTM inspections is considered to be sufficient.

5.3 Contingency Plan

A contingency plan shall be established by the Contractor and is to be included in the overarching CEMP. Notwithstanding, **Table 14** outlines an indicative plan to be undertaken by the builder in the event that the monitoring program identifies the management plan is not effective in managing the construction impacts.

TABLE 14: CONTINGENCY PLAN

Risk		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Construction traffic volume is in accordance with permissible and programmed volume and time constraints	Construction traffic volumes exceeds programmed volume but is within permissible volume constraints	Construction traffic volumes exceeds permissible volume and time constraints
	Response	No response required	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: - Review CTMP and update where necessary - Provide additional training.	As with Condition Amber, plus; - If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. - Stop all transportation into and out of the site.
	Trigger	No construction vehicle movement during peak periods	Construction vehicle movement close to peak periods	Construction vehicle movement during peak periods
	Response	No response required Continue monitoring program	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: Provide additional training (including toolbox talks and further notification of Driver Code of Conduct)	As with Condition Amber, plus; - If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. - Stop all transportation into and out of the site. - Review CTMP and update where necessary.

Queuing	Trigger	No queuing identified	Queuing identified within site	Queuing identified on the public road
	Response	No response required Continue monitoring program	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct	As with Condition Amber, plus - Review and investigate construction activities. - If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. - Temporary halting of activities and resuming when conditions have improved. - Stop all transportation into and out of the site. - Review CTMP and update where necessary, provide additional training.
Noise	Trigger	Noise levels do not exceed imposed noise constraints	Noise levels in minor excess of imposed noise constraints	Noise levels greatly in excess of imposed noise constraints
	Response	No response required	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts.	As with Condition Amber If noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.
Traffic Guidance Scheme	Trigger	No observable issues	Minor inconsistencies with TGS to onsite operations	Near miss or incident occurring regardless of / as a result of the TGS being implemented
	Response	No response required	Traffic Controller to amend TGS on site and to keep a log of all changes	Stop work until an investigation has been undertaken into the incident. There are to be changes made to the TGS to ensure that the safety of all workers, students and civilians are catered for.
Dust	Trigger	No observable dust	Minor quantities of dust in the air and tracking on to the road	Large quantities of dust in the air and tracking on to the road

	Response	No response required	Review and investigate construction activities and respective control measures, where appropriate. Implement additional remedial measures, such as: • Deployment of additional water sprays • Relocation or modification of dust-generating sources • Check condition of vibrating grids to ensure they are functioning correctly. • Temporary halting of activities and resuming when conditions have improved	As with Condition Amber. • If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. • Implement relevant responses and undertake immediate review to avoid such occurrence in future.
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It is therefore proposed to incorporate the above items within the communications strategy. The contingency plan outlines the most effective methods to ensure that each item identified within the Monitoring Program is adhered to, resulting in the impacts to the wider community being minimised. It also represents the efforts undertaken to continually improve CTMP and ensure that the process being utilised are indeed best practice.

5.4 Communications Strategy

A communications strategy shall be established by the Contractor and is included in the overarching CEMP. The contractor is to notify the community liaison representative when traffic is expected to exceed the parameters set within "Condition Green" of Table 14. Notwithstanding, **Table 15** outlines an indicative communication strategy to ensure that adequate communication with key stakeholders have been met.

TABLE 15: COMMUNICATIONS STRATEGY

Risk	Impact	Comms Channel
Wider Traffic Disruption	Wider community and stakeholders informed through local and wider advertising and notification	Stakeholder Meetings Stakeholder email blast
Construction related traffic	Ensure construction crews use traffic routes identified in the Traffic Management Plan, and Ensure residents in area are notified in advance to any traffic changes that may affect them	

Furthermore, ongoing communication will be undertaken so that all stakeholders are kept up to date of works and potential impacts.

Appendix A. Driver Code of Conduct

Drivers Code of Conduct

Safe Driving Policy for Project Nerio, Lot 1, Eastern Creek Drive, Eastern Creek

Objectives of the Drivers Code of conduct

- To minimise the impact of earthworks on the local and regional road network;
- To minimise conflict with other road users;
- To minimise road traffic noise; and
- To ensure truck drivers use specified heavy vehicles routes between the Site and the sub-regional road network.

Code of Conduct

The code of conduct requires that while driving any vehicle for work-related purposes. Drivers are to be issued with a copy of the Drivers Code of Conduct, and must comply with all of the following:

- Demonstrate safe driving and road safety activities.
- Abide by traffic, road, and environmental legislations.
- Follow site signage and instructions.
- Drivers must only enter and exit the site via the approved entry and exit points and travel routes.

The below activities in any vehicles will be considered as a breach of conduct and will result in removal from site:

- Reckless or dangerous driving causing injury or death.
- Driving whilst disqualified or not correctly licensed.
- Drinking or being under the influence of drugs while driving
- Failing to stop after an incident.
- Loss of demerit points leading to suspension of licence.
- Any actions that warrant the suspension of a licence
- Exceeding the speed limit in place on any permanent or temporary roads
- Turning right into Abbots Road from Mamre Road or turning right out of Abbots Road into Mamre Road in direct contradiction to the approved traffic route.

Driver Responsibilities

All Drivers on site must:

- Be responsible and accountable for their actions when operating a company vehicle or driving for the purposes of work.
- Display the highest level of professional conduct when driving a vehicle at all times.
- Ensure they have a current driver licence for the class of vehicle they are driving, and this licence is to be carried at all times.
- Immediately notify their supervisor or manager if their drivers' licence has been suspended, cancelled, or has had limitations applied.
- Comply with all traffic and road legislation when driving, including the adhering to any project specific road rules such as the no right turn out of or into Abbotts Road.
- Assess hazards while driving.
- Undertake daily pre-start checks of oil, tyre pressures, radiator, and battery levels of company vehicles they regularly used.
- Drive within the legal speed limits, including driving to the conditions.
- Not drive outside of the approved heavy vehicle routes. All drivers must obey weight, length and height restrictions imposed by the National Vehicle Regulator, and other Government agencies. Heavy Vehicles shall adhere to the selected routes.
- Be cognisant of the noise and emissions requirements imposed within the EIS, and in a broader sense, the NSW/ Australian Road Rules. Works must be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline.
- Do not queue on public roads unless a prior approval has been sought.
- Be aware that at no time may a tracked plant be permitted or required on a paved road.
- Never drive under the influence of alcohol or drugs, including prescription and over the counter medication if they cause drowsiness – to do so will merit disciplinary measures.
- All drivers to report to their supervisor if they have been prescribed medication prior to the start of work.
- Wear a safety seat belt at all times when in the vehicle.
- Avoid distraction when driving – the driver will adjust car stereos/mirrors etc. before setting off or pull over safely to do so.
- Report ALL near-misses, crashes, and scrapes to their manager,
- Report infringements to a manager at the earliest opportunity.
- Report vehicle defects to a manager prior to the next use of the vehicle.
- Follow the approved site access/egress routes only.
- Follow speed limits as imposed within the estate.
- Keep loads covered at all times.

The Site Team Responsibilities

The Contractor is responsible to take all steps necessary to ensure company vehicles are as safe as possible and will not require staff to drive under conditions that are unsafe.

This will be achieved by undertaking the following:

- Ensuring all vehicles are well maintained and that the equipment enhances driver, operator, and passenger safety by way of:
 - Pre-commencement checks for all new plant arriving on-site and prior to undertaking any work.
 - Daily prestart inspections for all plant, vehicles, and equipment currently on-site.
 - All construction plant must be fitted with a flashing light, fire extinguisher and reverse alarms (or squawkers).
 - Ensure all operators onsite have a current verification of competency (VOC) for their current driver's licence of the appropriate class.
 - Ensure maintenance requirements are met and recorded.
- Identify driver training needs and arranging appropriate training or re-training. This may include providing the below:
 - Operator VOC assessment as part of all inductions.
 - Regular Toolbox discussions on safety features, managing fatigue, approved heavy routes, driver responsibility and drink-driving.
- Encouraging Safe Driving behaviour by:
 - Ensuring the subcontractor is informed if their staff become unlicensed.
 - Not covering or reimbursing staff speeding or other infringement notices
 - Ensuring Legal use of mobile phones in vehicles while driving only and that illegal use is not undertaken.
- Encouraging better fuel efficiency by:
 - Use of other transport modes or remote conferencing, whenever practical.
 - Providing training on, and circulating information about, travel planning and efficient driving habits.

Crash or incident Procedure

- Stop your vehicle as close to it as possible to the scene, making sure you are not hindering traffic. Ensure your own safety first, then help any injured people and seek assistance immediately if required.
- Ensure the following information is noted:
 - Details of the other vehicles and registration numbers
 - Names and addresses of the other vehicle drivers.
 - Names and addresses of witnesses.
 - Insurers details
- Give the following information to the involved parties:
 - Name, address, and company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
 - If there is a disagreement over the cause of the crash.
 - If there are injuries.
 - If you damage property other than your own.
- As soon as reasonably practical, report all details gathered to your manager.

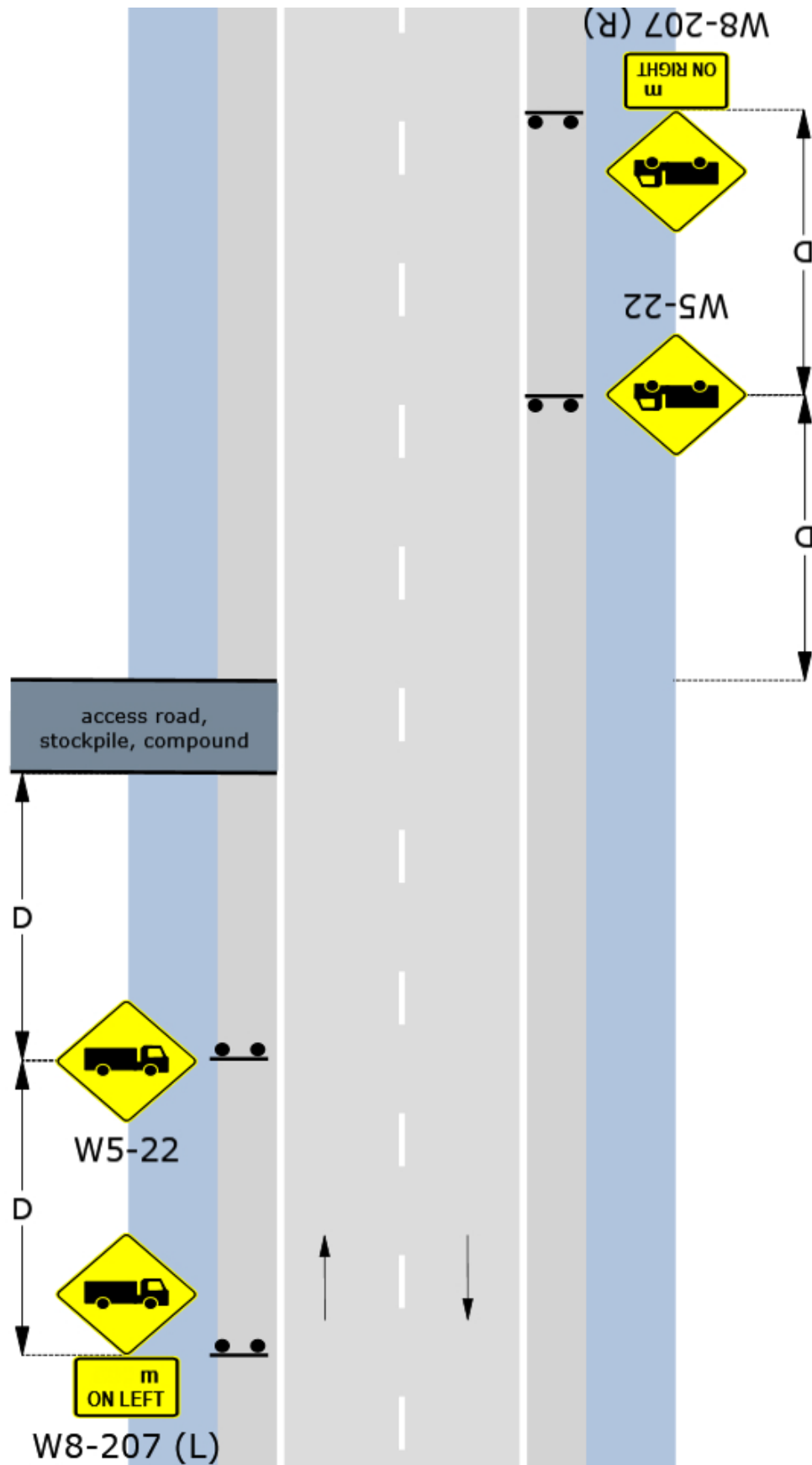
Environmental Procedures.

A range of measures shall be implemented to ensure the following;

- No dirt or debris from the construction vehicles is tracked on to the public road network.
- Reduce the impacts to sensitive receivers, including, where practicable, starting noisy equipment away from sensitive receivers and implementing respite periods.
- Watering of dusty activities will be undertaken, or activities temporarily halted and then resumed once weather conditions have improved.
- Containment measures for spillages will be provided at appropriate locations and in close proximity to staff car park areas, dangerous goods stores areas and main Project work areas.
- All vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria, and
- Keep an accurate record which includes the range of measures undertaken to reduce environmental impacts.

Appendix B. Traffic Guidance Scheme

D.4.7 Static: Access to depot, stockpile, quarry, gravel pit etc. all roads (formerly TCP 195)





GENERAL NOTES
This drawing is provided for information purposes only and should not be used for construction.
Base Plan prepared by NearMap, downloaded 26 June 2022.
Honeycomb Drive has a posted speed limit of 50km/h.

DESIGNED James Laidler	PAPER SIZE A3 OR A1
APPROVED BY J. LAIDLER	DATE 25.08.2021
SCALE Custom	0 10 20

CLIENT TACTICAL / QANSTRUCT
PROJECT P1570
PROJECT NERIO

DOCUMENT INFORMATION	
PROJECT NERIO	
TRAFFIC GUIDANCE SCHEME	
FILE NAME 1570-01-V01 TGS.dwg	SHEET AG01

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Appendix C. Risk Assessment

Proposed Warehouse Development

Risk Assessment and Communication Tool

Project Number	P1570		
Project Name	Project Nerio, Lot 1, Eastern Creek Drive, Eastern Creek		
Site Location	Lot 1, Eastern Creek Drive, Eastern Creek		
Date of Assessment	26 May 2022		
Revision	Issue I		
Name	Company	Title	
Document Control			
Date Issued	Revision	Issued By	Checked By
22/06/2022	Draft	J. Laidler	

Risk Matrix		Consequence				
		Minor	Major	Severe	Critical	Catastrophic
		A	B	C	D	E
Very Unlikely	1	Low	Low	Medium	Medium	Medium
Unlikely	2	Low	Low	Medium	Medium	High
Possible	3	Low	Medium	High	High	High
Likely	4	Medium	Medium	High	High	Extreme
Almost Certain	5	Medium	High	High	Extreme	Extreme

Description	
A - Minor	Could result in injury or illness not resulting in a lost work day or minimal environmental damage not required to be notified under jurisdiction requirements.
B - Major	Could result in injury or illness resulting in one or more lost work day(s) or environmental damage can be mitigated and is not required to be notified under jurisdiction
C - Severe	requirements where restoration activities can be accomplished.
D - Critical	Could result in permanent partial disability, injuries or illness that may result in
E - Catastrophic	hospitalisation of persons or environmental damage can be mitigated and is required to be notified under jurisdiction requirements.

Likelihood Descriptor	Design Likelihood
1 - Very unlikely	Industry experience suggests design failure is very unlikely. It can be assumed failure
2 - Unlikely	Industry experience suggests design failure is unlikely to occur in the life of design.
3 - Possible	Industry experience suggests design failure is possible sometime during the life of the
4 - Likely	Industry experience suggests design failure is likely to occur during the life of the product.
5 - Almost certain	Industry experience suggests design failure is almost certain to occur during the life of the

Risk Assessment and Communication Tool

Example

ID. Ref	Risk and/ or Hazard	Risk Description	Location	Existing Control	Initial Risk Rating			Design Response to risk and /or hazard	Status of Risk	Assignment of risk or hazard	Residual risk rating		
					C	L	RR				C	L	RR
1	Unauthorized Access to the Site	Site prevents unauthorised access	Entire Site	Nil	C	3	High	Exclusion barriers will be provided as part of the main works. The design provides a defined separation between construction and work areas.	Design Solution	Main Contractor	B	2	Low
2	Interaction between pedestrians and vehicles	Vehicles and pedestrians to be separates as best possible	Entire Site & Access Roads	Nil	D	3	High	Dedicated footpath, pedestrian crossings and additional signage shall be provided to separate vehicles and pedestrians as best possible.	Design Solution	Main Contractor	B	2	Low
3	Potential vehicle conflict points	Vehicles can crash with each other while manoeuvring through the site	Entire Site & Access Roads	Nil	B	3	Medium	Roadways are capable of two-way flow. Nonetheless, Traffic Controllers shall limit movements within disrupted areas to limit any safety issues. Low speeds throughout the site also reduce potential for crashes	Design Solution	Main Contractor	B	1	Low

4	Fatigue	Injury caused by fatigue	Entire Site	Nil	C	3	High	Toolbox meetings and regular breaks (in line with WHS practices) to minimise fatigue	Design Solution	Main Contractor	B	1	Low
5	Fall risks	Injury due to falls (in general)	Entire Site	Nil	E	3	High	Ensuring level changes across the site to be minimised as best possible, with additional black & yellow hazard tape/markings being installed where appropriate. Installation of handrails where level changes / ramps grades are significant.	Design Solution	Main Contractor	C	2	Medium
6	Misdirected access in to neighbouring site	Vehicle in unsafe locations	Entire Site	Nil	C	3	High	Ensuring appropriate directional signage has been provided to ensure vehicles do not access the wrong construction site, which could create potential safety breaches and hazards for all parties	Design Solution	Main Contractor	B	2	Low
7	Conflicting Traffic Management	Coordinating Traffic Controllers could create misleading and wrong advice	Entire Site	Nil	C	3	High	Toolbox meetings, regular liaison with all construction teams and review of signage plans on site in order to minimise contradicting signage.	Design Solution	Main Contractor	C	2	Medium