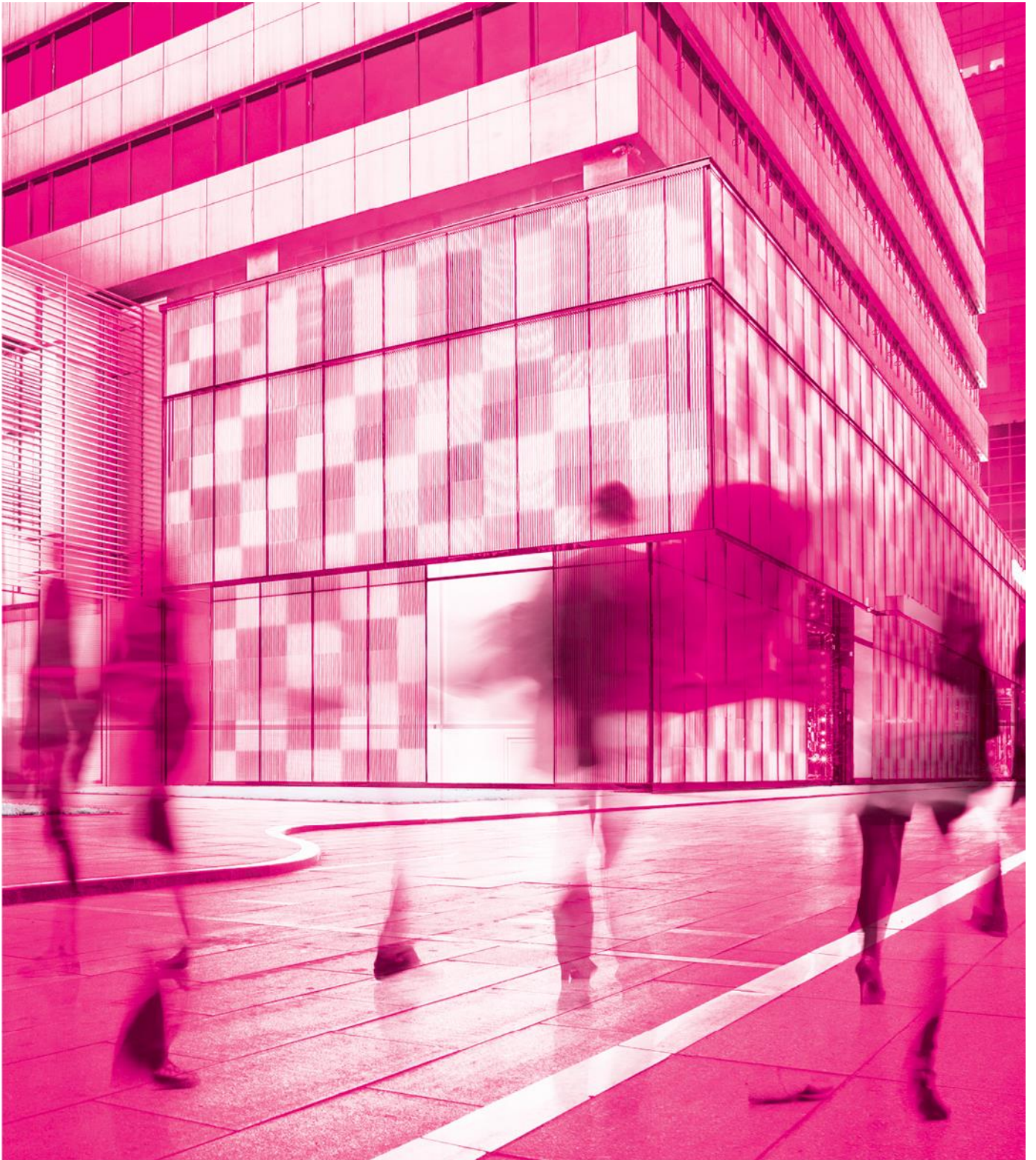




CTPMP;

Construction Traffic and Pedestrian Management Plan

For 52 Scott Street, Liverpool Civic
Place Phase B

28 March 2024

**parking;
traffic;
civil design;
wayfinding;
ptc.**

Document Control

Construction Traffic and Pedestrian Management Plan, CTPMP

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1. Introduction

ptc. has been engaged by Built Development Group (Built) to prepare a Construction Traffic and Pedestrian Management Plan (CTPMP) for a build-to-rent residential development within Phase B of the Liverpool Civic Place development located at 52 Scott Street, Liverpool.

The site is located at 52 Scott Street in the southern side of the Liverpool CBD. The site is located approximately 300m southwest of Liverpool Railway Station and is also in the vicinity of a number of regionally significant land uses and features including Liverpool Hospital, Westfield Liverpool, Western Sydney University Liverpool Campus, the Georges River and Biggie Park public open space.

The location of the site is shown in Figure 1.

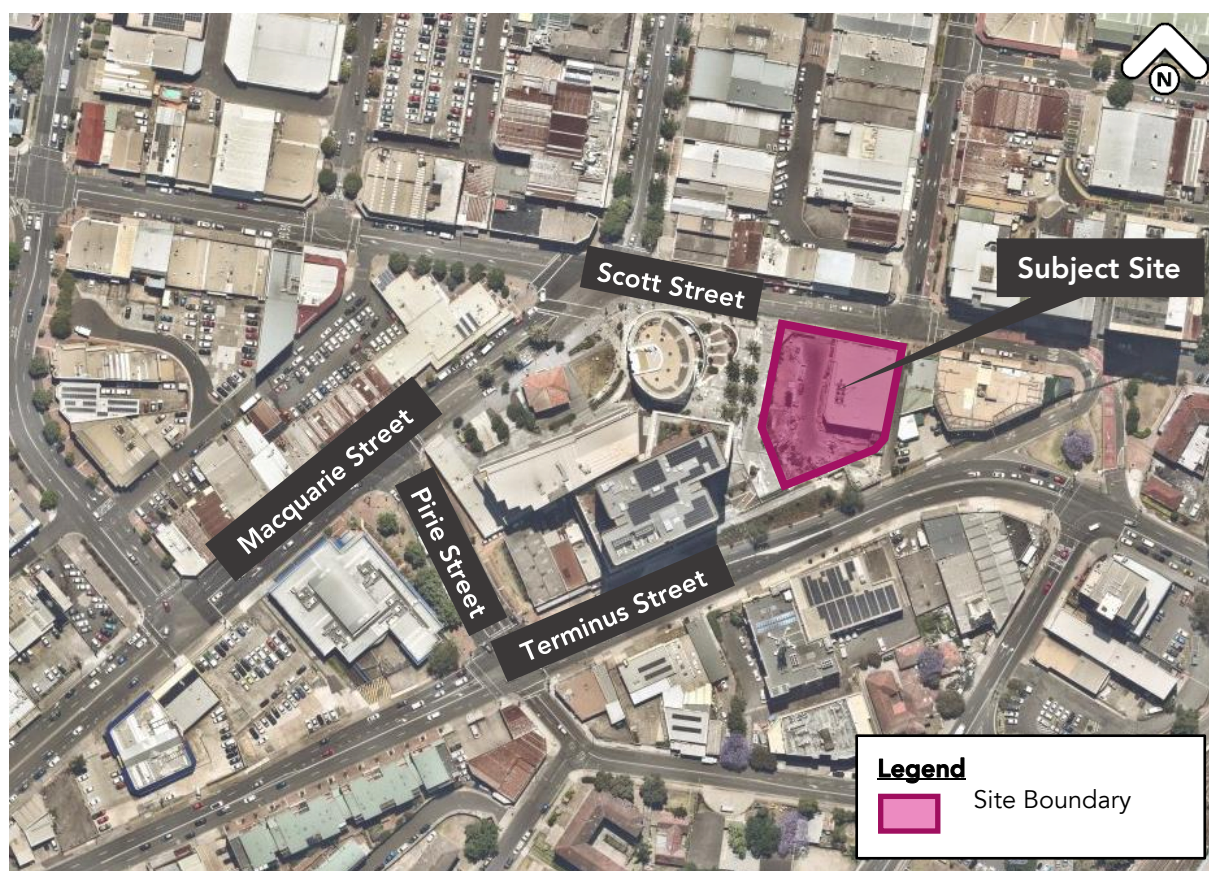


Figure 1 – Subject Site (Source: Nearmap)

1.1 Purpose of this report

This CTPMP has been prepared to provide the results of the analysis and outline the construction traffic measures that will minimise risks to public and workers during the construction of the Civic Place building Phase B and associated basement car park.

The site-specific CTMP approved by Council shall be implemented, adhered to and maintained at all times during the construction period.

The purpose of this CTPMP is to outline construction vehicle routes and their potential implications and mitigation measures, including:

- Location of any proposed work zone, construction site boundary, and access gate;
- Haulage routes;
- A heavy vehicle swept path assessment, demonstrating feasibility of any site access;
- Mitigation of any potential impacts to general traffic within the vicinity of the site from construction vehicles during the proposed works;
- Development of a traffic management plan (TMP), outlining the construction access to the development and a description of likely traffic control measures required.

The considerations and methodology have been made after discussion with the contractor.

As per the TfNSW "Traffic control at work sites" Technical Manual, consultation with the City of Canterbury Bankstown council and Transport for NSW (TfNSW) will need to be undertaken prior to finalisation of the CTPMP.

1.2 Project Summary

The project will comprise a built to rent residential development within Phase B of the Liverpool Civic Place project, which involves:

- Construction and use of a 28 storey build-to-rent residential development, comprising:
 - 320 dwellings;
 - ground floor lobby and an area of 267m² for retail tenancies;
 - internal amenity spaces throughout the building to service the build-to-rent residential use; and
 - Upper ground, level 9 podium rooftop and tower rooftop communal open spaces.
- Construction and use of three basement levels;
- Landscaping and public domain works; and
- Extension and augmentation of services and infrastructure as required.

1.3 Site Description

The site is currently occupied by a two-storey commercial building with a large frontage to Scott Street. The newly completed Civic Centre and library building occupies the western part of the property (known as Phase A), which shares vehicle access with the Phase B site.

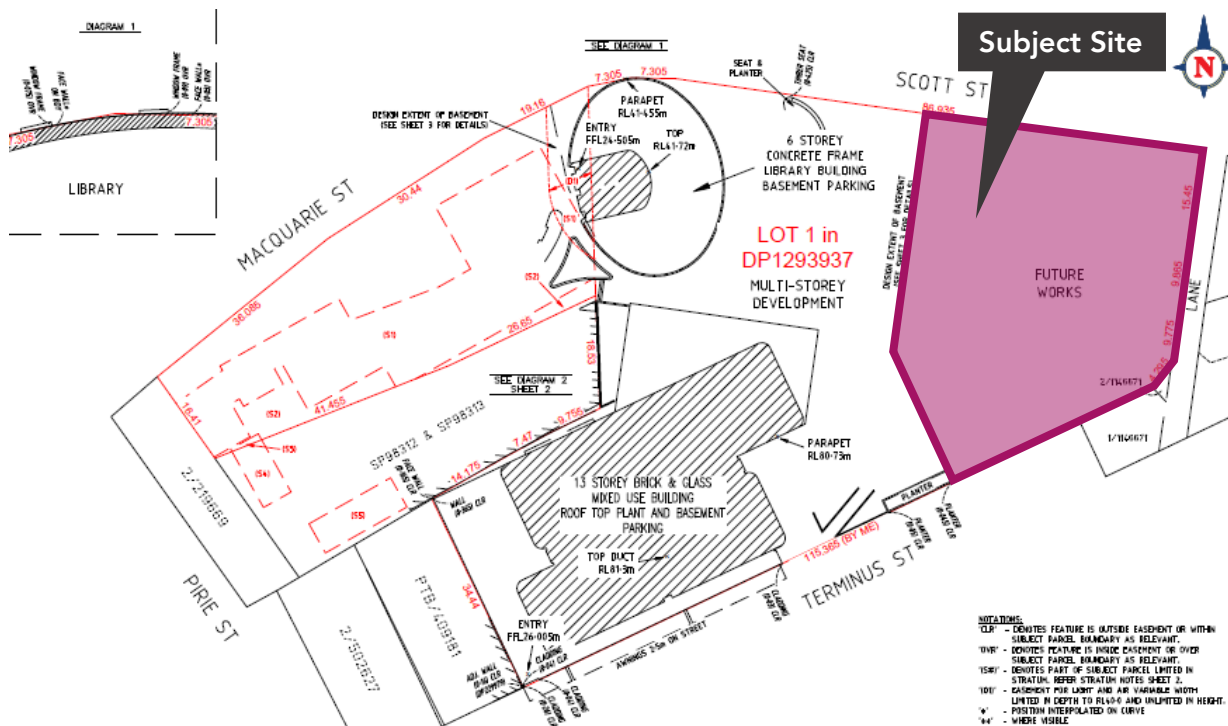


Figure 2 - Site and Lot Boundaries

3. Surrounding Road Network

The subject site is located within Liverpool City Centre and is primarily serviced by Terminus Street (State Road) and local roads managed by Liverpool City Council.

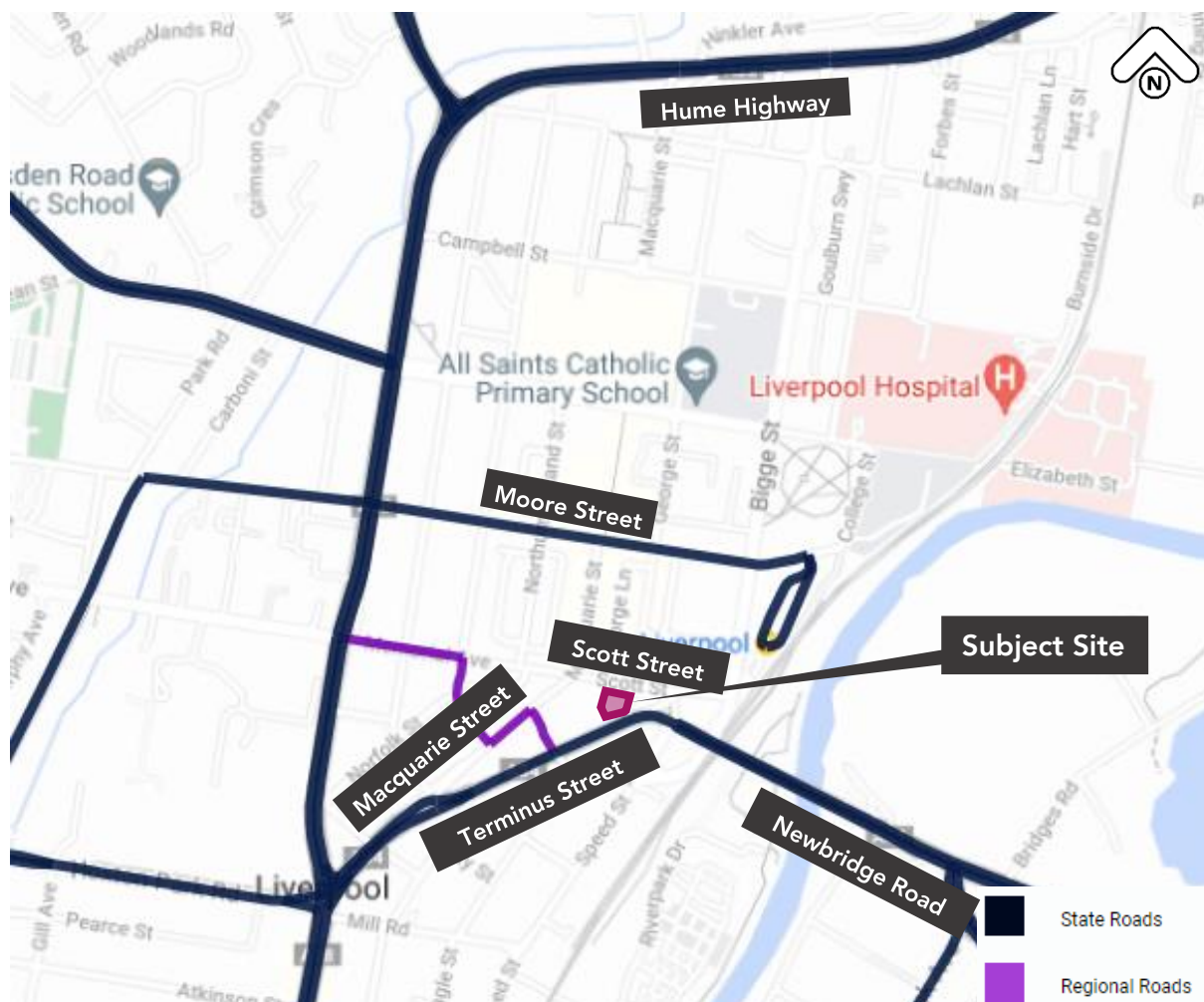


Figure 4 - Surrounding Road Network (Source: TfNSW Road Hierarchy)

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads	- Freeways and Primary Arterials (TfNSW Managed)
Regional Roads	- Secondary or sub arterials (Council Managed, partly funded by the State)
Local Roads	- Collector and local access roads (Council Managed)

4. Construction Traffic and Pedestrian Management Plan

4.1 Traffic Management Planning Process

Temporary Traffic Management (TTM) for the project has been planned in accordance with Transport for NSW (TfNSW), *Traffic control at work sites – Technical Manual*, Issue No. 6.1, 28 February 2022 (TCAWS). The process is shown in Figure 5.

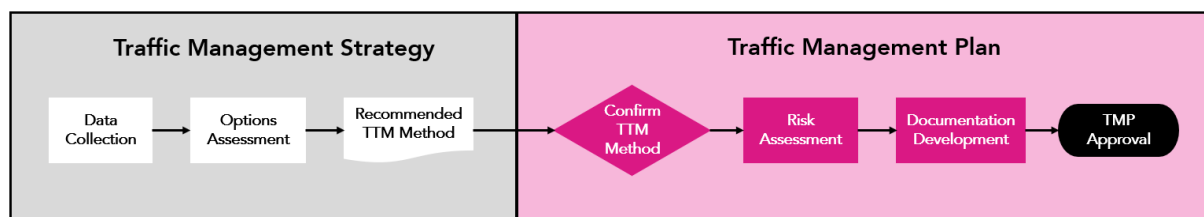


Figure 5 – Temporary Traffic Management Process

An iterative process is being adopted in collaboration with relevant stakeholders to adopt the most appropriate traffic management approach and develop the associated documents for the work.

4.2 Traffic Management Strategy

A traffic management strategy has been chosen to support the appropriate allocation of time, funds and resources for the project, and allow for consultation in determining the safest and most suitable way for road users to interact with the work site.

The traffic management strategy has included engagement with TfNSW. Consultation with council or data collection have not been undertaken yet but will need to occur prior to finalisation of the CTPMP by the contractor. However, the CTPMP process included options assessment to ensure the lowest net risk for all stakeholders were considered. The following have been considered in determining the TTM method:

Detour options

During the entire duration of the project, construction activities will be performed within the site's boundaries. No detours are necessary or proposed by the client therefore, disproportionate amount of disruption to the road users will NOT be introduced.

Site location

The site of the works contains vegetation, existing signage and infrastructure that may obstruct signs and devices needed for certain strategies.

Work area

The area needed to safely perform the work requires Scott Street closures for authority works. A construction zone will be provided inside the site and most of the construction activities will be undertaken within the site. A work zone will be provided for Articulated Vehicle on the existing footpath in site frontage adjacent to the Scott Street. George lane adjacent to the eastern side of the construction zone will be able to accommodate double stack sheds if required for civil / structural trades. A qualified traffic controller will stop the traffic (typically for 30 seconds) while the crane lifts the material from the work zone.

Hoardings will be used to secure the boundary of the construction site.

Vulnerable road users

Desire lines of pedestrians (students, staff, carers), cyclists, motorcyclists and users of scooters may impact on works or create undesired interaction between these road users and traffic.

Community facilities and needs

The presence of Gardeners Road Public School and associated bus stops in the vicinity of the site does not create conflict with the work.

4.3 Decision of the TTM Method

After considering the factors in Section 4.2, the TTM method chosen is “Around (Elimination)” as traffic can and will be completely separated from the work area. This method will provide the lowest overall net risk option.

4.4 Objective

The CTPMP associated with the construction activity of the project aims to ensure the safety of all workers, pedestrians and road users within the vicinity of the construction site, and the following are the primary objectives:

- To minimise the impact of the construction vehicle traffic on the overall operation of the road network.
- To ensure continuous, safe and efficient movement of traffic (vehicular and pedestrian) for both the general public and construction workers.
- Installation of appropriate advance warning signs to inform users of the changed traffic conditions.
- To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site.
- To provide information regarding the changed access arrangement and a description of the proposed external routes for construction vehicles accessing the site; and
- Establishment of a safe pedestrian environment in the vicinity of the site.

4.5 Hours of Work

All works associated with the project will be restricted to the time periods defined below, which are standard construction working hours:

- Monday to Friday: 7:00am – 6:00pm
- Saturday: 8:00am – 1:00pm

No work will be permitted on Sundays and public holidays.

4.6 General Requirements

In accordance with TfNSW requirements, all vehicles transporting loose materials will have the entire load covered and/or secured to prevent any items, excess dust or dirt particles depositing onto the roadway during travel to and from the site. All subcontractors must be inducted by the lead contractor to ensure that the procedures are met for all vehicles entering and exiting the construction site. The lead contractors will monitor the roads leading to and from the site and take all necessary steps to rectify any road deposits caused by site vehicles.

Vehicles operating 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.

The applicant / contractor is required to follow and abide by the specific standard requirements for construction management as set out by the Liverpool City Council.

4.7 Key Phases of Work

The proposed timeframe for the construction work is estimated between October 2024 to October 2026. The construction works is proposed in 4 stages. The timeframe and staging for the construction activities and the associated number of construction workers on site is presented below in Table 1.

Table 1 – Construction Staging Details Summary

Stage	Stage Details - Construction Activities	Time period for each phase	Average - Peak daily Workers Volume
Stage 1	Decommissioning and demolition of existing warehouse building	4 weeks demolition	250 workers
Stage 2	Civil and Excavation of basement	6 months	250 workers
Stage 3	Structure from B3 basement to 27 levels above floor	11 months	250 workers
Stage 4	Fit out of 320 build to rent units and common areas	6 months	250 workers

The general site plan of the proposal prepared by Scott Carver is shown in Figure 6.

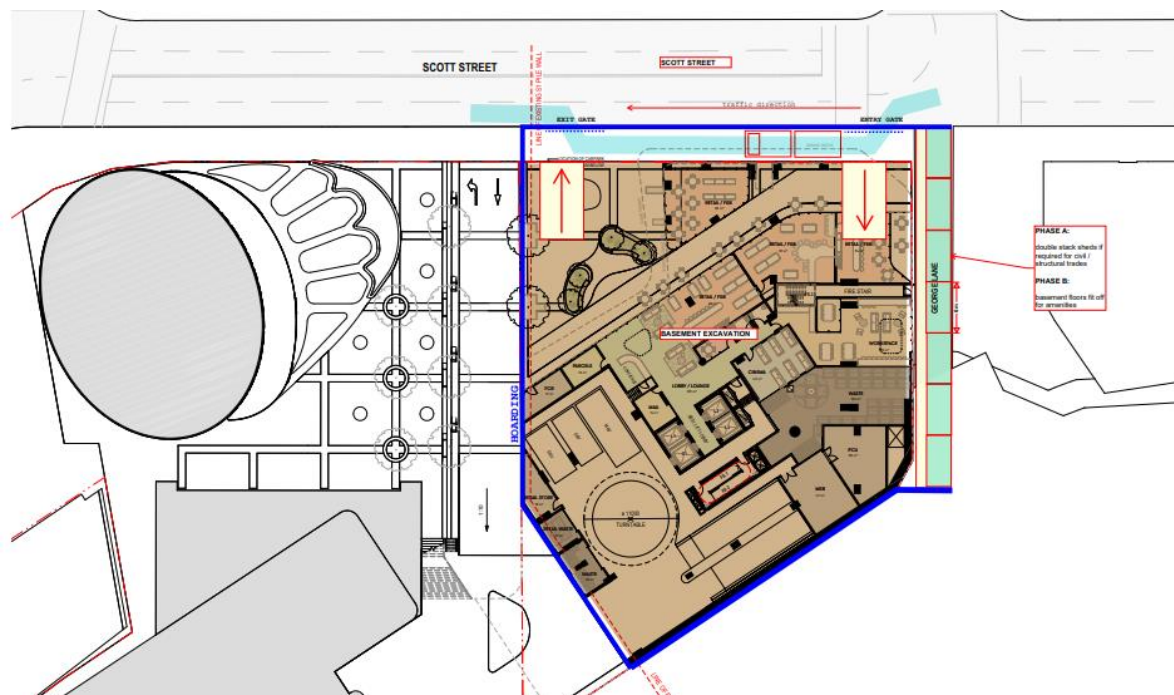


Figure 6 – Proposed Site Plan (Source: Scott Carver)

4.8 Construction Vehicle Types

The construction of the development will involve the use of several different vehicle types in relation to the various stages and tasks involved. The proposed works are envisaged to be carried out using a mix of commercial small to heavy rigid vehicles including utes, vans, etc.

Given the size of the excavation project and the structural concrete pours, vehicles up to and including 19m semi-trailer and truck-and-dog trailer units will be used for material removal and deliveries.

Any oversized vehicle (including the use of mobile cranes) that is required to travel to the project into the vicinity of the site will be dealt with separately, with the submission of required permits to and subsequent approval by Liverpool City Council prior to any delivery being undertaken.

The type and average daily number of vehicles accessing the site during each stage is shown in Table 2.

Table 2 – Construction vehicle size and Volumes

Stage	Stage Details	Vehicles	Average - Peak daily trucks/deliveries
Stage 1	Excavation phase	19m Truck and Dog	60
Stage 2			
Stage 3	Construction phase	12.5m Heavy Rigid Vehicle	20
Stage 4	Fit Out phase	8.8m Heavy Rigid vehicle or Medium Rigid Vehicle	20

4.9 Construction Vehicle Routes

The site is located on the southern edge of the Liverpool commercial centre and therefore the proposed construction vehicle routes have regard for the surrounding traffic arrangements in the vicinity of the site. No queuing or marshalling of trucks is permitted on any public road and all loading and unloading of materials will be undertaken either within the site or within the Works Zones.

All vehicle routes to the site are constrained to existing public roads that have the physical geometry to accommodate the turning movements. Approaching the site, some vehicle movements may entail the assistance of traffic controllers, as more than one lane will be required for turning manoeuvres.

For this site, different ingress and egress routes have been identified for 19m AV, 19m Truck and Dog vehicle and 12.5m HRV and analysed further, as outlined in the following subsections.

A swept path assessment along the proposed entry / exit routes has been undertaken for 19m AV accessing the construction work zone as this is the largest vehicle used for construction. It is assumed that the surrounding road network is capable to accommodate a 19m Truck and Dog which has a lesser turn radius than 19m AV, thus no swept path assessment has been undertaken for this type of vehicle in the surrounding intersections. 19m Truck and Dog will enter / exit the site during the demolition stage, while other vehicles will access the construction works zone. Hence, swept path assessment has been undertaken for 19m Truck and Dog entering and exiting the site. A swept path assessment has also been undertaken for 12.5m HRV in the surrounding intersection as this type of vehicle has an additional route proposed for accessing the work zone.

Access to the site is available from Scott Street and provides the ability for a 19m Truck and Dog to pass through the site in a forward direction.

The access to the site is discussed in detail in Section 4.10.

Changes to the parking restrictions based on the routes and site access are discussed in Section 4.12.

4.9.1 Access Route for AV and Truck and Dog

The AV and Truck and Dog routes for the Scott Street access are shown in Figure 7.

4.9.1.1. Ingress Route

The ingress route for 19m AV and 19m Truck and Dog would be only from north of the site. The ingress route is shown in pink lines in Figure 7.

The vehicles approaching the site from north would arrive via Hume Highway A28 (State Road) and turn left into George Street (Local Road), turning right into Scott Street (Local Road) and immediately left into the site.

4.9.1.2. Egress Route

19m AV or any other small sized vehicles would leave the site either north or south. The egress routes are shown in blue lines in Figure 7.

The egress from the site or work zone to the north would be by exiting the site to Scott Street (Local Road) in the westbound direction, proceeding straight to Memorial Avenue (Local Road and then to Regional Road) and exit on Copeland Street (State Road).

The egress from the site to the south would be by exiting the site to Scott Street (Local Road) in the westbound direction, turn left to Macquarie Street (Regional Road for a short stretch in between Local Roads section and then to State Road), and exit on Hume Highway (State Road).

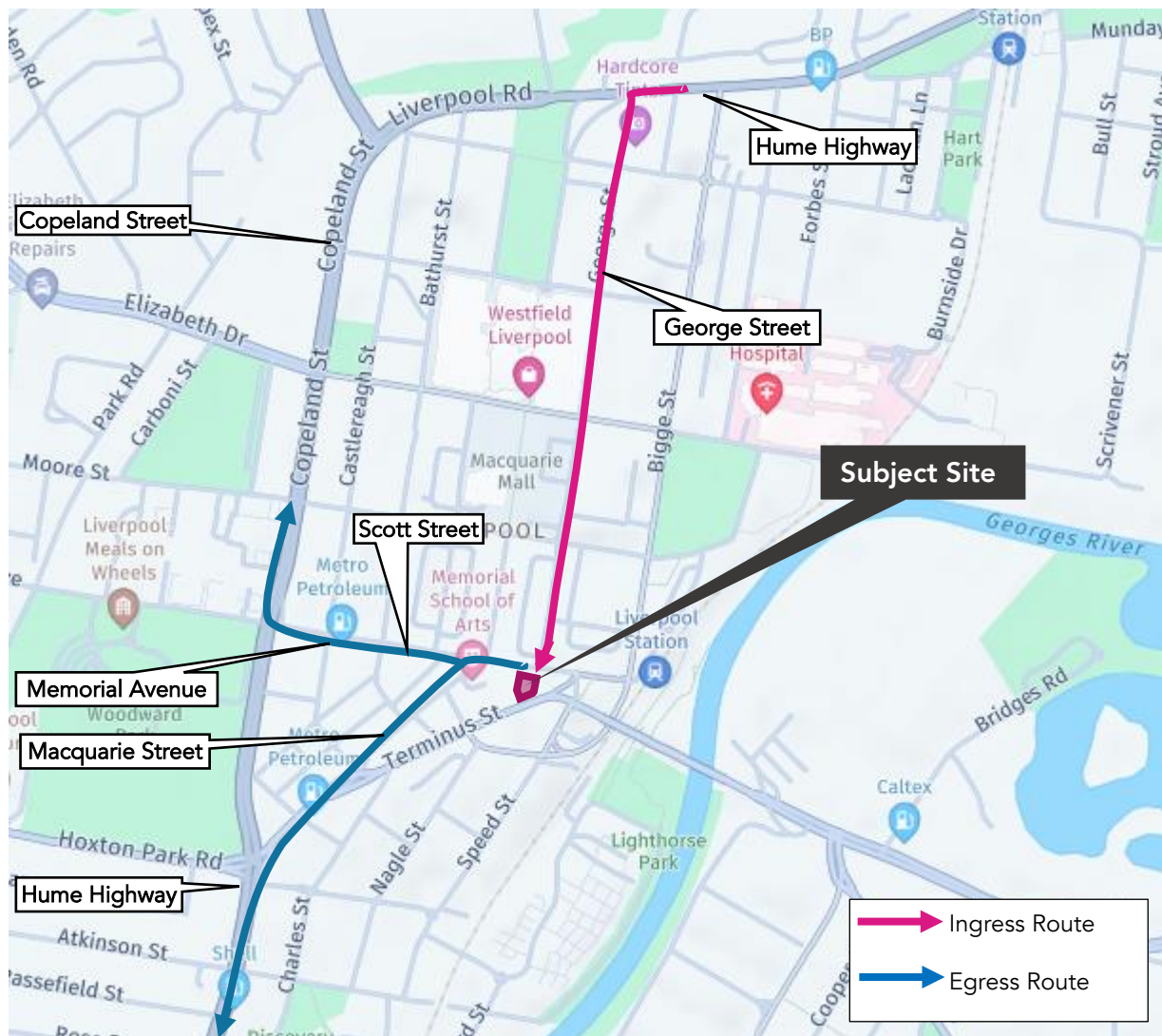


Figure 7 - Site Access for 19m AV and 19m Truck and Dog (Scott Street)

4.9.2 Access Route for 12.5m HRV

The HRV truck routes for the Scott Street access are shown in Figure 8.

4.9.2.1. Ingress Route

The ingress route for 12.5m HRV or any other smaller sized vehicles would be from north or south of the site. The ingress routes are shown in pink lines in Figure 8.

The vehicles approaching the site from north would arrive via Hume Highway A28 (State Road) and turn left into George Street (Local Road), turning right into Scott Street (Local Road) and immediately left into the site.

The vehicles approaching the site from south would arrive via Hume Highway A28 (State Road) and turn right into Macquarie Street A34 (State Road), proceed straight to Terminus Street A34 (State Road), exit the Terminus Street (Local Road), turn left to Scott Street (Local Road) and turn left into the site.

4.9.2.2. Egress Route

12.5m HRV or any other small sized vehicles would leave the site either north or south. The egress routes are shown in blue lines in Figure 8.

The egress from the site or work zone to the north would be by exiting the site to Scott Street (Local Road) in the westbound direction, proceeding straight to Memorial Avenue (Local Road and then to Regional Road) and exit on Copeland Street (State Road).

The egress from the site to the south would be by exiting the site to Scott Street (Local Road) in the westbound direction, turn left to Macquarie Street (Regional Road for a short stretch in between Local Roads section and then to State Road), and exit on Hume Highway (State Road).

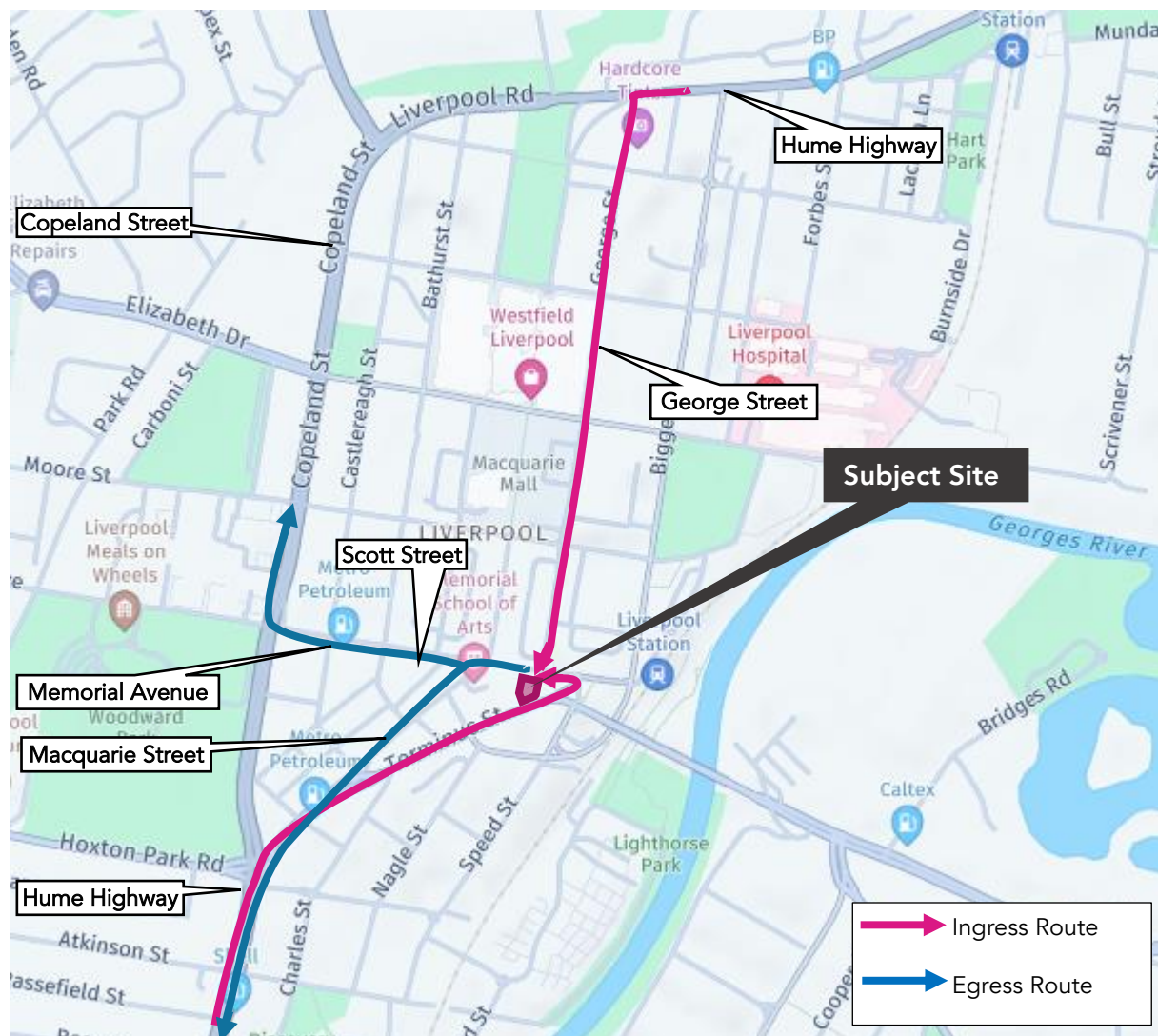


Figure 8 - Site Access for 12.5m HRV (Scott Street)

4.10 Site Access

4.10.1 Direct Site Access

Trucks and dog vehicles are to enter the site with turning left from the proposed separate entry and exit gates on Scott Street.

It is noted that the Truck and Dog exits George Street from the second lane to enter the site. Nevertheless, the truck can pass a B99 vehicle and is considered acceptable.

The Truck and Dog exiting the construction site will give way to the ongoing traffic. A qualified traffic controller will be positioned near the exit gate to ensure that the roadway is clear off the traffic coming from the east as well as from the shared access zone, allowing the Truck and Dog to exit the construction site. The same traffic controller will be responsible to stop the traffic (typically 30 seconds) while the crane lifts the material from the work zone if required.

Swept path for a Truck and Dog vehicle entering and exiting the site is shown in Figure 9.

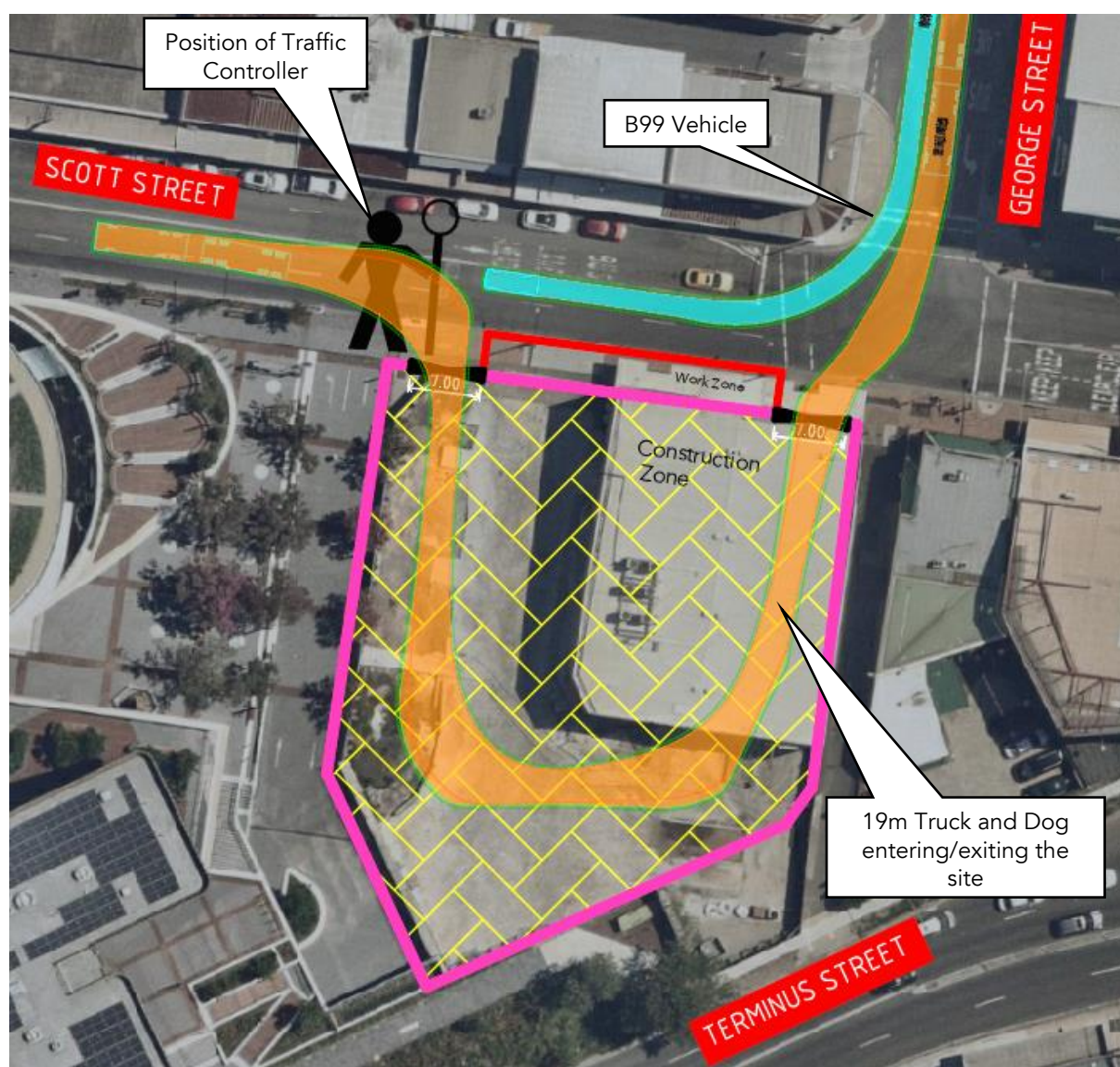


Figure 9 – Truck and Dog entering the site

4.10.2 Works Zones

While reviewing the need for a Works Zone, the following matters were considered:

- Pedestrian and public safety;
- To ensure no construction vehicles queue in nearby public roads; and
- Providing clarity to residents and general public of approved designated construction activity zone.

It is likely that a Works Zone will be required on the Scott Street frontage during periods of the construction project.

Subject to an approved footpath occupancy licence, the footpath space along Scott Street would be available for deliveries and standing plants and concrete pours.

A road occupancy licence from the Transport Management Centre will also be required in the event that any activity affects traffic flow along Scott Street.

Both the footpath and road occupancy licence will both require relevant traffic control plans to be submitted. The occupancy licences will be provided by the contractor as required.

The construction trucks will enter and exit the work zone via Scott Street.

The work zone will take up the existing footpath in the Phase B site frontage. New paving and in ground services will be done to the existing footpath, which will be levelled for a distance of 50m to the adjacent Scott Street.

As shown in Figure 10, AV has been shown to be able to undertake the manoeuvre whilst B99 vehicle can pass the truck at the same time with sufficient clearance into the Scott Street. It is noted that swept path assessments are generally conservative and tighter turn movements are achievable in reality.

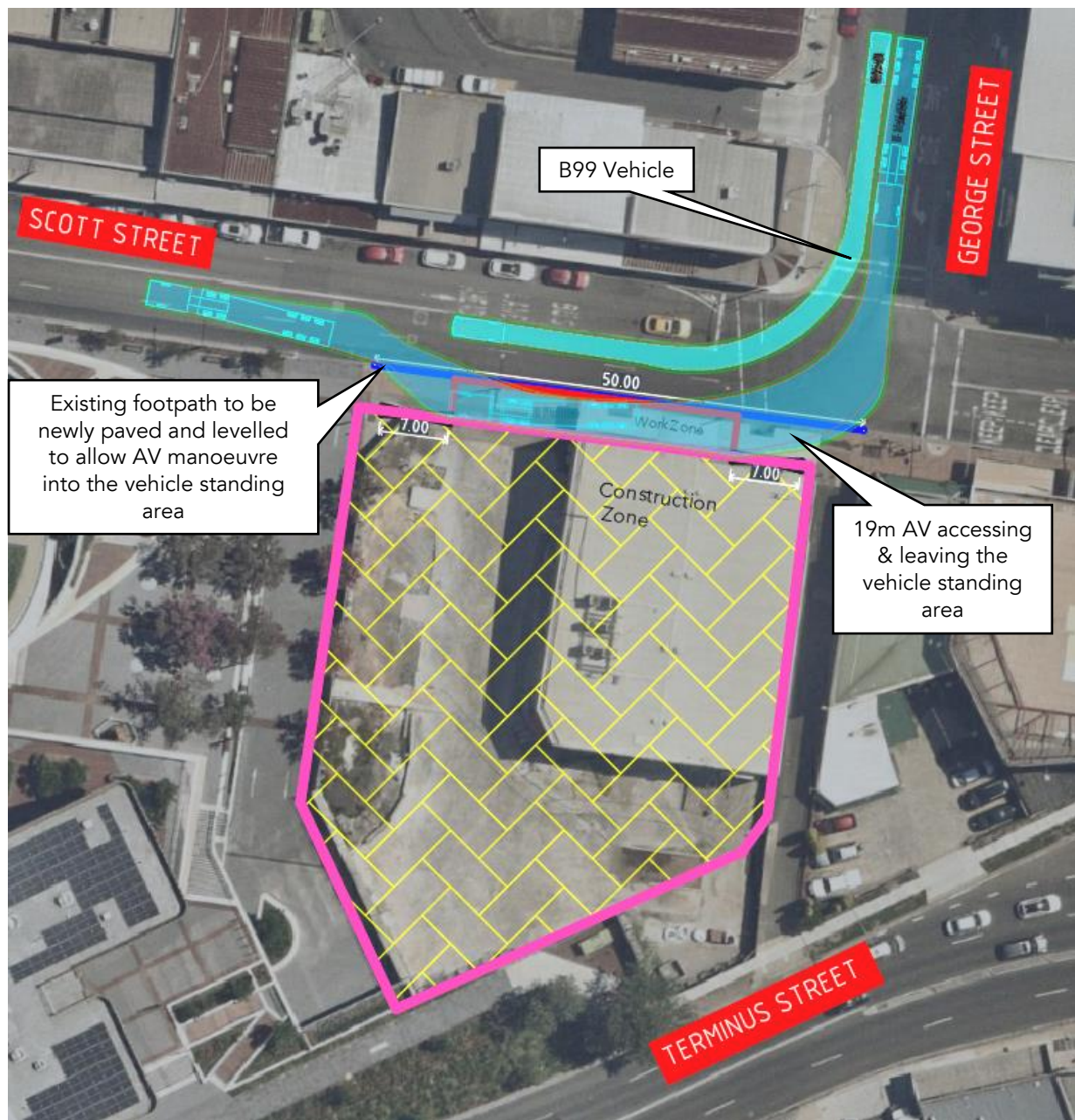


Figure 10 – 19m AV entering and exiting the Work Zone

4.11 Traffic Control Measures

The Traffic Guidance Scheme (TGS) outlines the proposed traffic management to inform road users of the changed traffic conditions in the vicinity of the works site.

The TGSs have been set out in accordance with the TfNSW Traffic Control at Works Site.

It is noted that detailed TGSs are to be prepared by the appointed traffic management contractor prior to commencement of works and submitted to Council and TfNSW for approval. All Traffic Guidance Schemes associated with the CTPMP must comply with the Australian Standards and Roads and TfNSW Traffic Control at Work Sites Guidelines Issue 6.1 (2022).

The Principal Contractor shall provide appropriate traffic and pedestrian management at all site interfaces with the public road. This will ensure truck movements and deliveries are received efficiently and safely.

The proposed TGS has been designed to be suitable for the work and location in accordance with Issue 6.1 of the traffic Control at Work Sites Technical Manual, 2022 (TCAWS).

The distance between "Truck Turning" signs should be D distance as per TCAWS, however 0.4D has been given at the southern end of the George Street to alert all the traffic entering the construction site from north as there is a high pedestrian activity along the street and 0.5D between the sections exiting Terminus Street and entering Scott Street in the east to alert the traffic well before rather than placing the signs on the curve avoiding ambiguity to the incoming traffic onto the Scott Street.

The TGS is shown in the below Figure 11. The detailed TGS are presented in Attachment 2.



Figure 11 – TGS Plan along George Street and Scott Street

4.12 Site Adjustments

The site needs to be adjusted to allow for the construction trucks to enter the site and work zone as shown in Figure 12.

- The entry and exit gates will be moved to the property boundary,
- The width of the gate will be 7m to accommodate the vehicle trucks,
- The length of the existing footpath will be levelled to the Scott Street for a length of 50m,
- A Traffic Controller shall be accommodated near the exit gate to manage the exiting Truck and Dog from the construction site, as and when required.

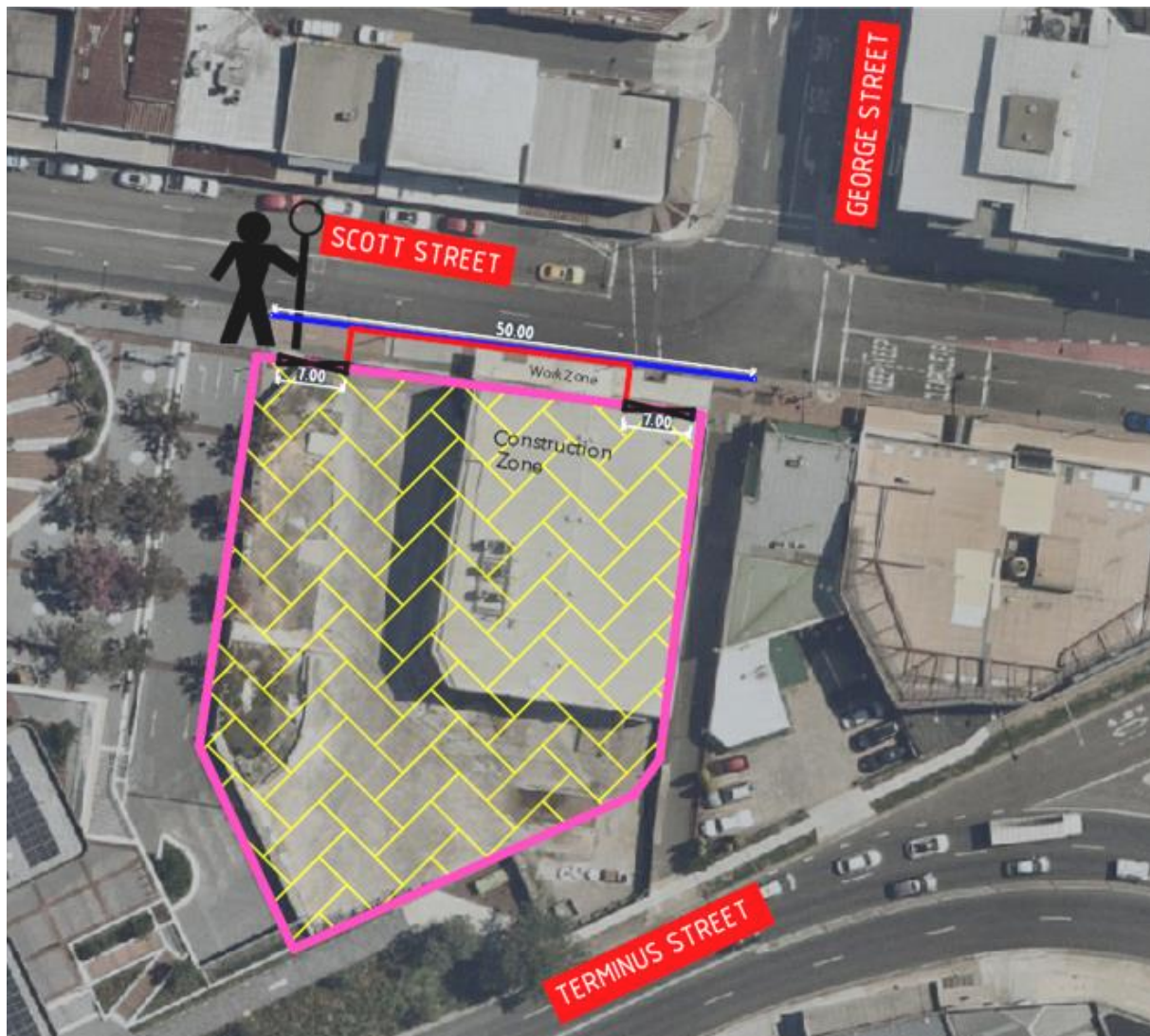


Figure 12 – Site Adjustments for AV and Truck and Dog

4.13 Parking Controls

Construction vehicles access to the site and work zone will require changes to the on-street parking restrictions. The proposed work zone will have very limited effect on the parking restrictions on the Scott Street and is presented in Figure 13 and outlined below:

- “No Stopping” sign in front of the Phase B will be removed as the existing footpath will be removed to accommodate the work zone.
- Two “Work Zone” signs will be placed, one well before the start of the work zone considering the work zone on the footpath and the second at the end of the work zone.
- The existing traffic signal near to the proposed entry gate will be moved further east to allow for the construction vehicle manoeuvres entering the site and work zone.

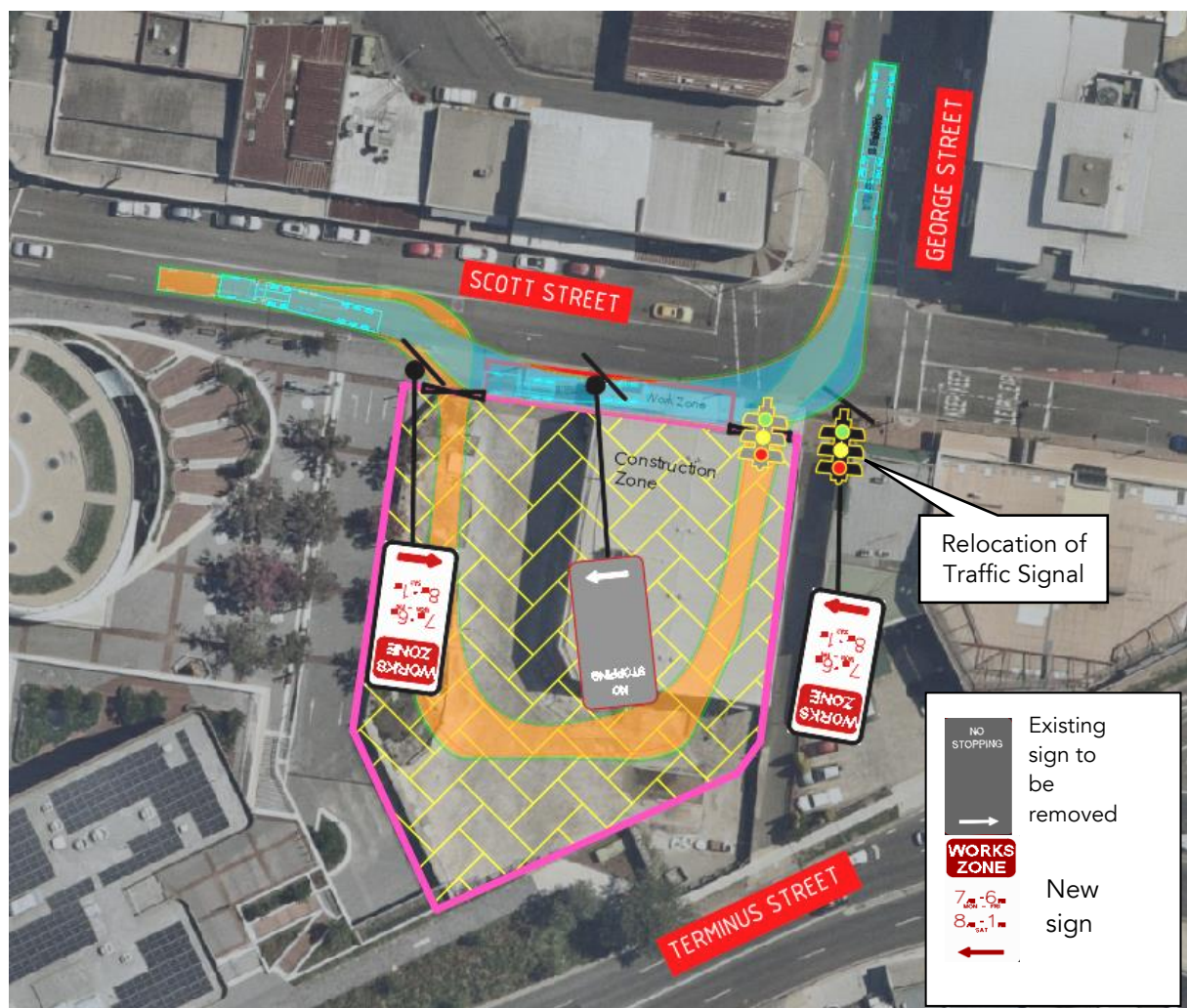


Figure 13 – Changes to the on-street parking / traffic signal

4.14 Implications on Surrounding Intersections

The detailed swept path assessment of the AVs at the nearby intersections are presented in Attachment 1.

4.15 Emergency Vehicle Access

The proposed traffic control arrangements propose Scott Street closures for authority works. However, any emergency vehicles requiring access to the project site will do so via the site access.

A detailed Emergency Management Plan will be further developed prior to site establishment works.

4.16 Pedestrian Management

The general public will not be allowed to access to the site.

The contractor must ensure that the proposed hoardings are maintained in a clean, well illuminated and safe manner at all times, throughout the duration of the project. Due to the nature of the site and the emphasis placed on materials handling, the efficient control and protection of pedestrian traffic is of utmost importance.

It is recommended that the contractor provides a dedicated traffic & pedestrian management team adjacent to the publicly accessible roads. This will ensure deliveries are received efficiently and safely.

The pedestrian signal will be closed in the site frontage in regard to the construction work zone. Two Pedestrian Controllers will be positioned, one to the further east and second controller opposite to the Phase B site to divert the pedestrians in the east-west direction and vice-versa.

The location of pedestrian controllers and the diverted pedestrian movements are shown in Figure 14.

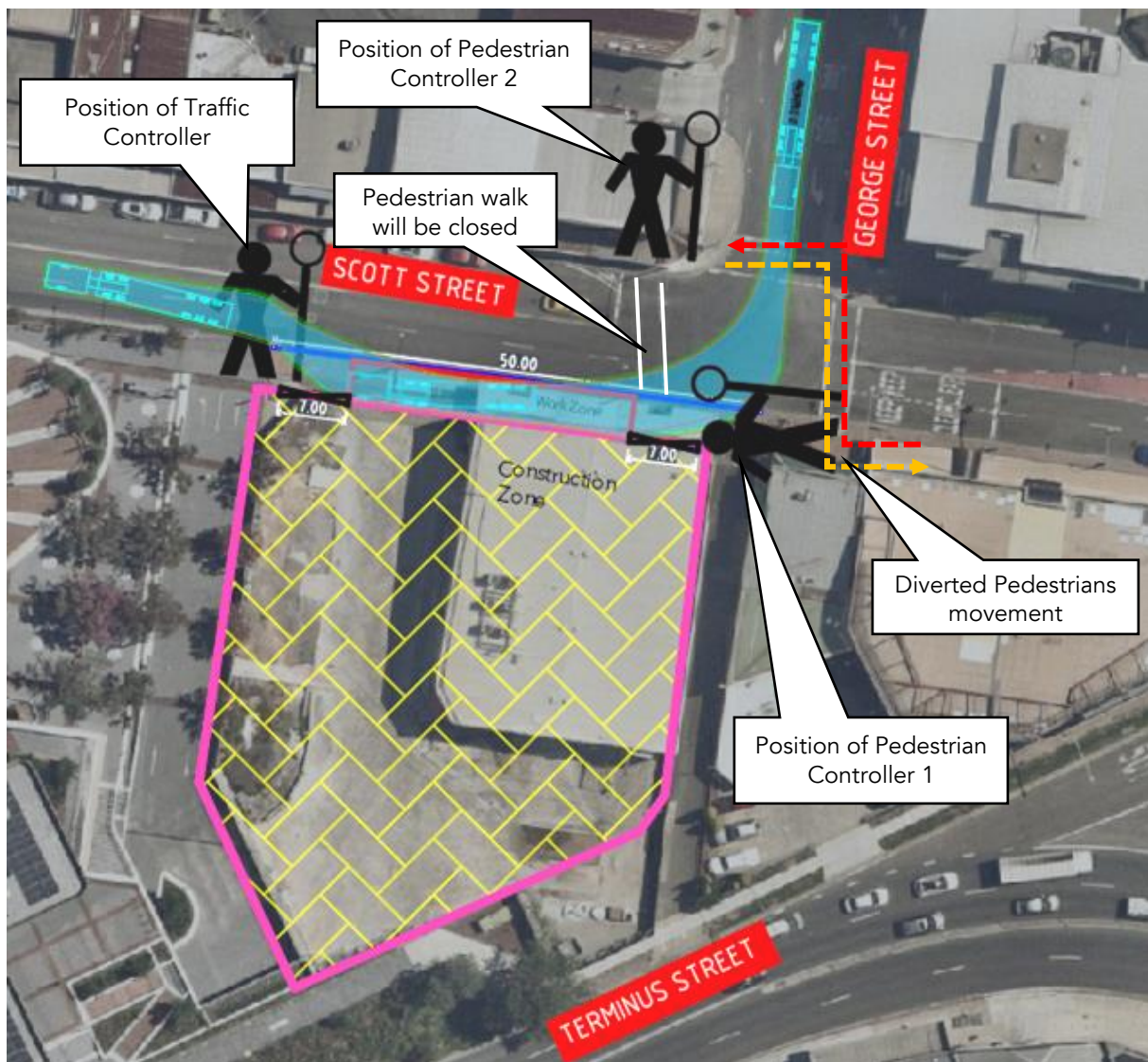


Figure 14 – Pedestrian Management

4.17 Special Deliveries

It is understood that oversized and over-mass vehicles are generally not allowed to travel on Local Roads unless approval for a one-off occasion is obtained from the National Heavy Vehicle Regulator (NHVR) and Council. Requests to use these vehicles must be submitted to the NHVR 28 days prior to the vehicle's scheduled travel date. For more information please contact the NHVR on 1300 696 487 or www.nhvr.gov.au.

Should the contractor require a partial road closure on State, Regional and/or Local Roads, or carry out work within 100m of Traffic Signals, an application will be made to the relevant authority to obtain their approval.

4.18 Work Site Security

To provide security to the works site and protection to the general public, it is likely that the site perimeter boundaries will comprise A and B Class hoardings, installed during the various construction phases. These

hoardings will be established immediately following site possession and fitted with appropriate public directional signage.

All gates are securely locked outside of working hours and may be regularly patrolled by security staff. This security network should work closely with the contractor to ensure that security is being maintained throughout the construction period.

The contractor should maintain a site entry register requiring all visitors to sign in upon entry. All visitors will be required to wear an identification "visitor" badge and wear appropriate PPE at all times while on site.

All visitors to the site will also be issued with temporary site access ID card, in order to gain authorised entry to the project site and for display whilst being escorted on site.

4.19 Construction Staff Parking

Due to site constraints and the very close proximity of Liverpool train station and a number of regular bus services, parking will not be provided on-site. To minimise car usage, the contractor will be encouraged to assist in the transportation of workers to the site and all site personnel will be made aware of the public transport options available in the vicinity of the site (refer to Section 3) and encouraged to utilise these facilities.

Site personnel who choose to drive will also be encouraged to consider car-pooling wherever practicable. Staff related with the construction works should not park on the public road. The location of proposed parking area for workers is the Phase A Liverpool Civic Public Car Park via Terminus Street. The Liverpool Civic public car park is highlighted in Figure 15.

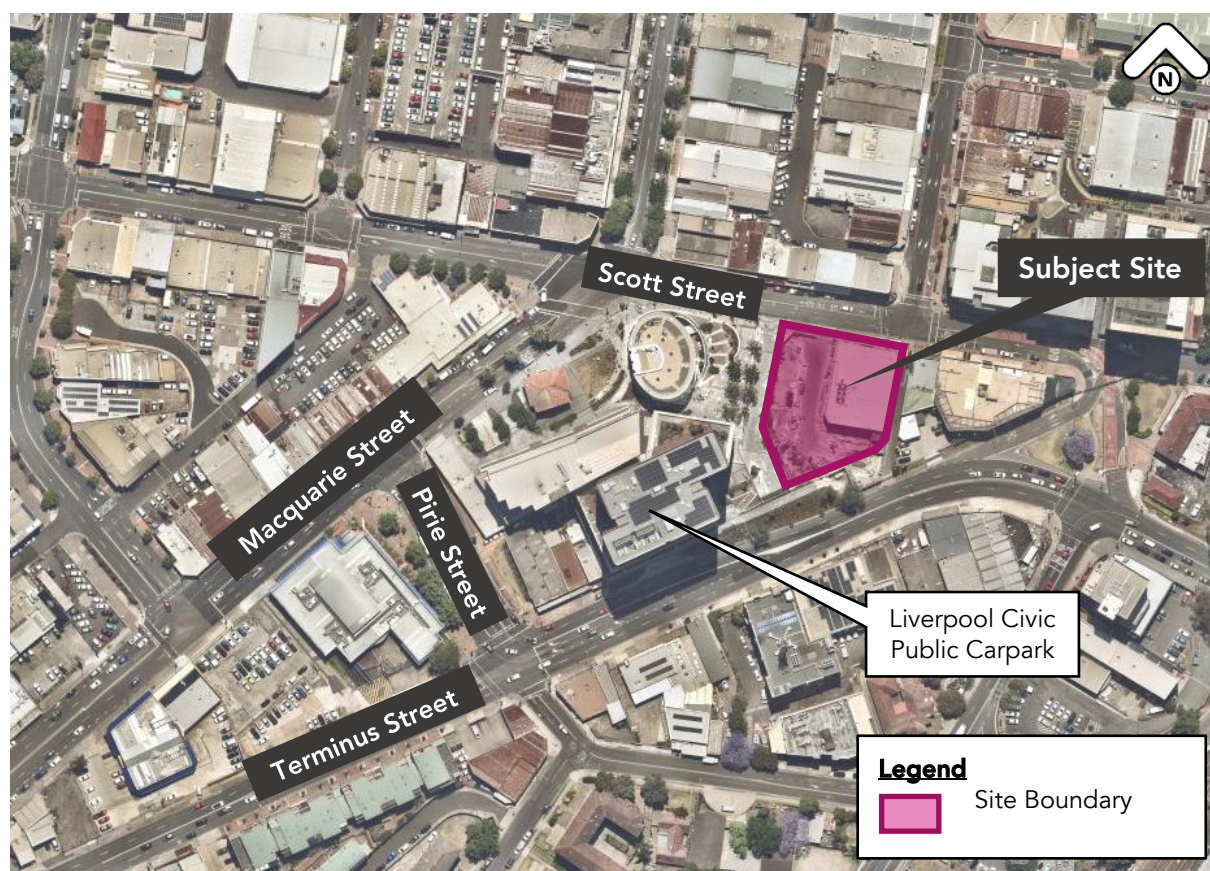


Figure 15 – Liverpool Civic Public carpark

4.20 Staff Induction

All staff and subcontractors are required to undergo a site-specific online induction which outlines the construction procedures and management framework specific to the project. The induction is aimed at instilling in each person a common-sense approach to safety, to ensure they employ the responsible environmental practices and awareness needed to deliver the project in accordance with the relevant regulations and standards.

A record of all site inducted personnel will be retained on site as well as within the online site induction management platform e.g. Blue Glue or similar.

4.21 Access to Adjoining Properties

Access to all adjoining properties will be maintained throughout the works. The adjacent landowners will be notified of works via letter box distribution and road signage to advised of anticipated truck movements in operation with access to adjoining properties being maintained at all times.

4.22 Cumulative Construction Traffic Activity

We are not aware of any major projects in the surrounding construction area, however the contractor shall liaise with Council and any nearby construction sites to ensure that minimal cumulative effects are introduced into the road network. Consideration should be taken regarding the timing and staggering of heavy vehicle arrivals and departures.

4.23 Occupational Health and Safety

Any workers required to undertake works or traffic control within the public domain shall be suitably trained and will be covered by adequate and appropriate insurances. All traffic control personnel will be required to hold TfNSW accreditation in accordance with Section 8 of Traffic Control at Worksites.

The comprehensive Work Health & Safety Management Plan will be provided by the contractor and shall be constantly reviewed as the design and construction methodology progress.

4.24 Consultation and Method of Communicating Traffic Changes

Traffic Guidance Schemes in accordance with the Australian Standards (AS 1742.3 – Traffic Control Devices for Works on Roads) and TfNSW Traffic Control at Worksites will advise motorists of upcoming changes in the road network.

During construction, the contractor shall each morning, prior to work commencing, ensure all signage is erected in accordance with the TGS and clearly visible. Each evening, upon completion of work, the contractor is to ensure signage is either covered or removed as required. Sign size is to be size "A".

The associated TGS road signage will inform drivers of works activities in the area including truck movements in operation. Any variation to the layout of the TGS on site is to be recorded and certified by authorised SafeWork NSW accredited personnel. Amended TGSs must also be approved by Council prior to implementing any changes.

A minimum 14-day notification must be provided to adjoining property owners prior to the implementation of any temporary traffic control measures.

Road Occupancy License is required for any works which impact on the road corridor, in addition to any permits required by Council. These need to be submitted to the Transport Management Centre (via the OPLINC system) a minimum of 10 business days prior to commencement of works.

4.25 Hazard and Risk Identification

All construction projects entail a set of risks—from a transport perspective—that may need to be mitigated. Some of these hazards and risks are related to:

- Moving traffic
- Queued traffic
- Site vehicle access and egress points

To assess the transport risks associate with the construction work, a risk matrix has been prepared as shown in Table 3. The definitions of the risk matrix are as follows:

Likelihood (L)

- Almost unprecedented: not expected to occur in the next 100 years.
- Very unlikely: expected to occur once every 10 to 100 years.
- Unlikely: expected to occur once every 1 to 10 years.
- Likely: expected to occur once during any given year.
- Very likely: expected to occur occasionally (1 to 10 times) during any given year.
- Almost certain: expected to occur multiple times (10 or more times) during any given year.

Consequence (C)

- Insignificant: Illness, first aid or injury not requiring medical treatment. No lost time.
- Minor: Minor injury or illness requiring medical treatment. No lost time post medical treatment.
- Moderate: Minor injuries or illnesses resulting in lost time.
- Major: 1 to 10 serious injuries or illnesses resulting in lost time or potential permanent impairment
- Severe: single fatality and/or 11 to 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.
- Catastrophic: multiple fatalities and/or more than 20 serious injuries or illnesses* resulting in lost time or potential permanent impairment.

Risk Rating (R)

- Low (L)
- Medium (M)
- High (H)
- Very High (VH)

Table 3 - Risk Matrix

		Consequence					
		Insignificant C6	Minor C5	Moderate C4	Major C3	Severe C2	Catastrophic C1
Likelihood	Almost unprecedented L6	L	L	L	L	M	M
	Very unlikely L5	L	L	L	M	M	H
	Unlikely L4	L	L	M	M	H	H
	Likely L3	L	M	M	H	H	VH
	Very likely L2	M	M	H	H	VH	VH
	Almost certain L1	M	H	H	VH	VH	VH

The risks of the construction activities and the proposed mitigation measures are provided in Table 4.

Table 4 - Risks and Mitigations

Risk	L/C/R	Mitigation	L/C/R
Construction vehicles unexpectedly stopping/slowing down after turning onto Scott Street and possibly being rear-ended by other motorists	L4/C4/M	Provide adequate signage to forewarn other motorists to the presence of large construction vehicles.	L5/C5/L
Footpath Occupancy during construction will create detours and potential risks for pedestrians.	L1/C6/M	Provide appropriate signage and traffic control prior to the setup to inform pedestrians of changes in footpath conditions. Inform residents on what the works will involve and how the footpath network will be changed in advance so residents can use alternative routes.	L5/C6/L

4.26 Contact Details for On-Site Enquiries and Site Access

Daniel Brabant
Project Director

M: +61 434 004 797

4.27 Maintenance of Roads and Footpaths

The roads along the route of travel will be kept in a serviceable state at all times, while the footpath in site frontage will be closed and the footpath network will be changed for alternative pedestrian routes. Any damage arising as a result of the proposed truck movements will be treated / repaired by the principal contractor at no cost to Council.

The disposal bins are to be positioned such that:

- Bins should not be positioned in the carriageway.
- Bins stored on the footpath must leave a minimum clearance of 1.2m for pedestrians.
- Bins should not be placed on the paved footpath.
- Bins should be easily identifiable as an obstruction during night time.
- A temporary lighting arrangement should be provided to maintain pedestrian safety.
- Footpath occupancy approval is required.

4.28 CTPMP Approval, Monitoring and Review

This CTPMP has been reviewed and endorsed by the designer's one-up manager who holds a current Prepare Works Zone Traffic Management Plan qualification. This approved CTPMP has been used to inform the development of all TGSs for the work.

Regular monitoring and review are to be conducted throughout the life of the project to ensure that the CTPMP remains current and addresses all risks at the work site for the duration of the project or activity.

To ensure that this CTPMP is kept up to date, the activities identified in Table 5 will be undertaken to facilitate review and continuous improvement.

Table 5 - Monitoring Activities

Stage	Activity	Purpose	Qualification	Tools and checklists
Planning	TGS verification	To ensure that the TGS selected or designed is suitable for the works and location.	ITCP or PWZTMP	TCAWS Appendix E.2 TGS verification checklist
During TTM	Weekly TTM inspections (includes preopening inspection)	To ensure that the CTPMP and relevant TGS are appropriate and operating safely, effectively and efficiently	PWZTMP	TCAWS Appendix E.3 Weekly TTM inspection checklist
	Shift TTM inspections	To ensure that the TGS is implemented as designed. This includes at a minimum, twice per shift and when: • A TGS is installed, changed or updated. • At regular frequency afterwork commences, recommended every 2 hours; and • Once after care arrangements have been installed if required	ITCP or PWZTMP	TCAWS Appendix E.4 Shift / Daily TTM inspection checklist
	CTPMP review	To ensure that CTPMP controls are achieving the required outcomes.	PWZTMP	Not provided
	Client inspections	Verification of TTM through the Transport Traffic Engineering Services, Work Health and Safety Branch, Surveillance Officers or other client representatives.	Divisionally determined	Not provided
Post Completion	Post-completion inspection	To ensure that the site has been demobilised as planned and is safe for opening to traffic	ITCP or PWZTMP	Appendix E.5 Post completion inspection checklist

All relevant changes must be considered and recorded in the CTPMP with any changes made by an appropriately qualified person. A copy of all documentation relating to the endorsement of the changes must be available to be accessed, either electronically or in hard copy, by the person responsible for the works.

All relevant changes must be made in consultation with the Liverpool City Council and TfNSW, and this needs to be reflected in the CTPMP Report.

5. TGS Confirmation and Approval

In the event a Traffic Guidance Scheme (TGS) is required, the lead contractor is to design and set out the TGS in accordance with Issue 6.0 of the Traffic control at work sites Technical Manual, November 2020 (TCAWS).

It is noted that any changes to the existing parking restrictions will require a minimum fourteen (14) days notification to adjoining property owners prior to the implementation of any temporary traffic control measures.

Any revisions or additional TGSs ones must be prepared by a PWZTMP qualified person upon engagement of the traffic management contractor and prior to commence of works on site.

5.1 TGS Verification

TCAWS TGSs are to be approved as being appropriate for use at the work site. Site confirmation must be undertaken via the completion of the TGS verification.

A TGS verification must be undertaken to confirm the selected or designed TGS is fit for purpose. A TGS verification must be completed in accordance with Section 8.1.2 TGS verification by an ITCP or PWZTMP qualified person. TGS verification must include an inspection of the work site where the TGS will be implemented.

5.2 TGS Approval

The PWZTMP qualified person who has designed or modified the relevant TGS has approved the TGS for use. Approval of the TGS includes:

- Review of the relevant TMP, risk assessment and associated TTM specific documentation;
- Design, redesign or modification of the TGS must be in accordance with the requirements of TCAWS;
- Confirmation that the TGS provides the relevant information for the ITCP person to safely implement on-site.

The one up manager of the PWZTMP qualified person has approved the TGS, including:

- Any non-standard or unaccepted signs or devices;
- Any departures from the requirements of TCAWS;
- If a manual traffic controller is proposed for use.

5.3 The Role of Traffic Controllers / Pedestrian Controllers

Traffic Controllers (TCs) and Pedestrian Controllers have been implemented at exit gate and possible pedestrian movement entrances to the closed footpath as a measure to mitigate the risk of conflict between construction vehicles / pedestrians and other vehicles on road. TCs are to make sure that there is a suitable gap when the trucks are exiting the site. The Roads Act does not give any special treatment to trucks leaving a construction site – the vehicles already on the road and pedestrians on the footpath have right of-way. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e., at all times the pedestrians have right-of-way on the footpath, not the trucks.

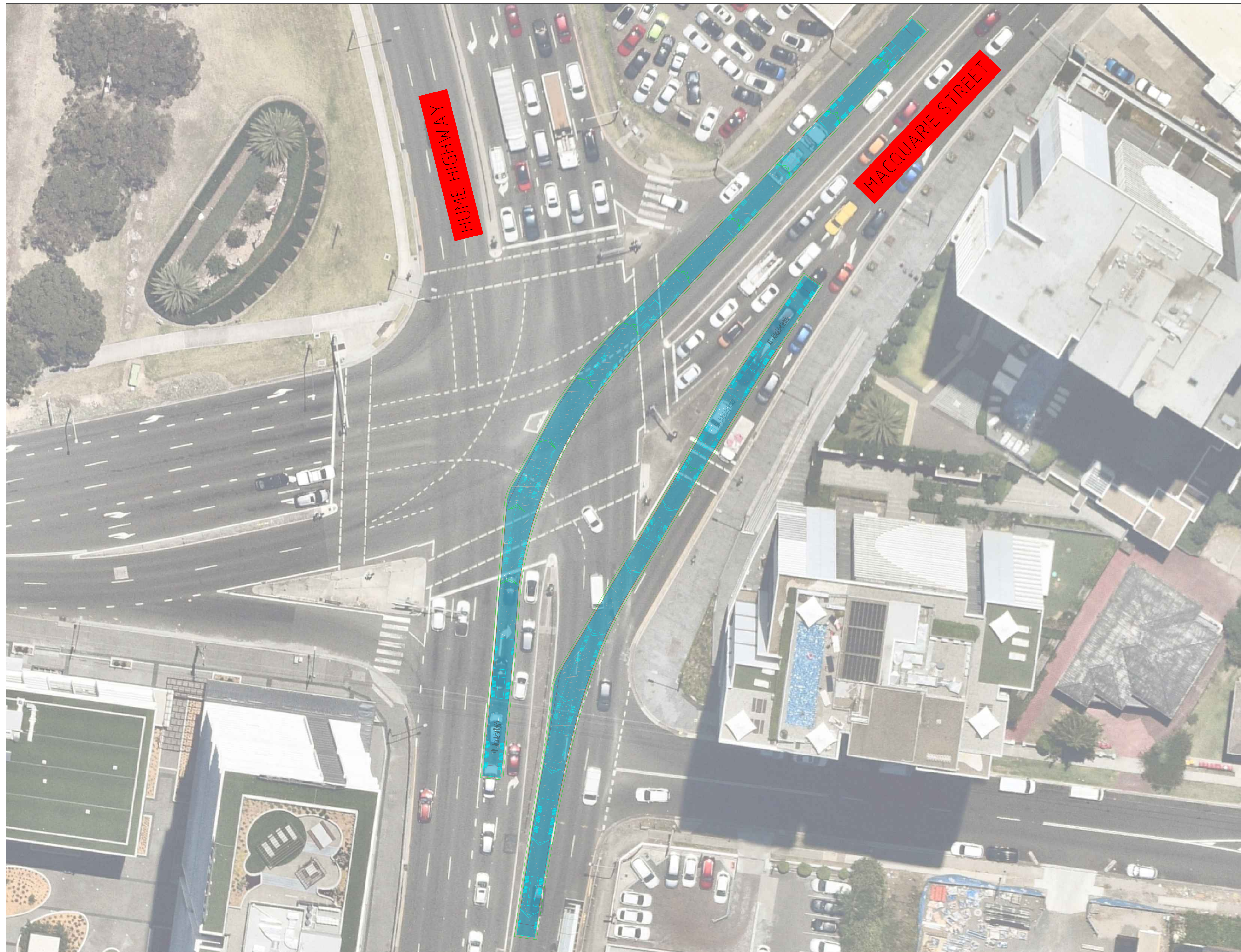
6. Summary

This CTPMP has been prepared to outline the construction traffic measures to improve site safety to the public and workers and the construction process.

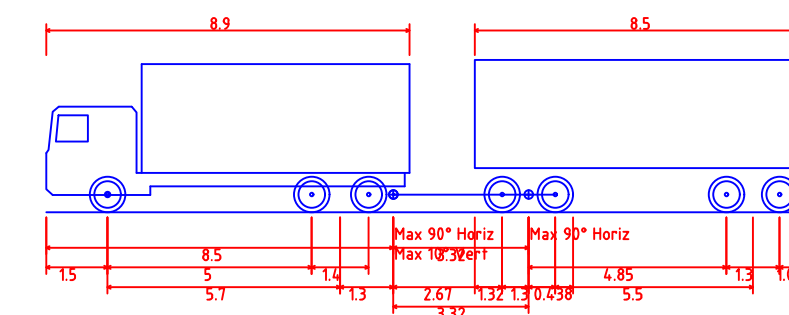
With the measures described in the CTPMP in place, the construction activity is anticipated to have minimal disruption to the daily activities within the vicinity of the site.

It is envisaged that this document will be continually reviewed and amended if required, due to changes in design, TfNSW, Council or any other authority requirements. Should any changes be made, they will need to be reviewed and approved by Council and TfNSW.

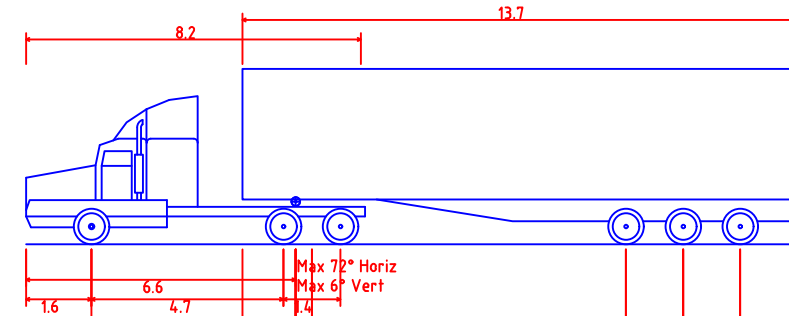
Attachment 1 Construction Vehicle Swept Paths



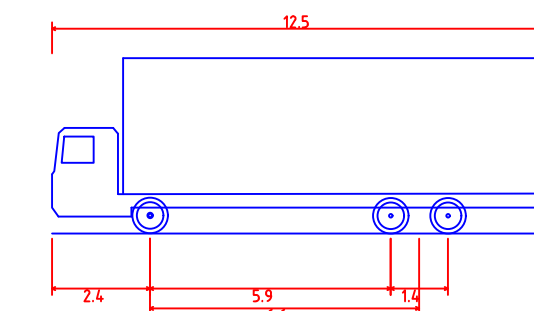
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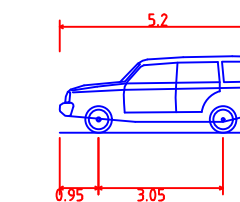
19M TRUCK AND DOG	
Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



HRV - Heavy Rigid Vehicle	
Overall Length	12,500m
Overall Width	2,500m
Overall Body Height	4,300m
Min Body Ground Clearance	0.417m
Track Width	2,500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12,500m



B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

TRAFFIC GUIDANCE SCHEME

General Notes:

1. All information provided regarding traffic guidance schemes (TGS) is indicative
2. Detailed TGS are to be developed by the appointed traffic control company
3. All TGS revisions or adjustments must be made by a suitably accredited person with the appropriate safe work NSW licence
4. This drawing is not to scale and is to be used for reference purposes only
5. All signage is to be in accordance with TCAWS v6.1 (2022) and set up in visible and appropriate locations
6. TGS signage to be spaced at dimension D in accordance with TCAWS.

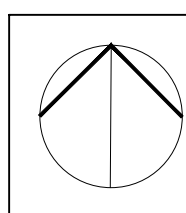
Specific Notes:

1. Traffic controller is to be in place on any occasion where any (25 or 20m) articulated semi-trailers are entering or exiting the site.
2. On other occasions, where smaller vehicles are required, the traffic controller may not be required for access and egress swept paths.

ptc.

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P1	27/03/2024	FOR CONSTRUCTION	PB	AM	
REV.	DATE	DESCRIPTION	DRAWN	REVIEWED	



DRAWING KEY

PROJECT
52 SCOTT STREET, LIVERPOOL
CIVIC PLACE - PHASE B

DRAWING TITLE
Construction Vehicle Swept Paths 19m AV Entry and Exit

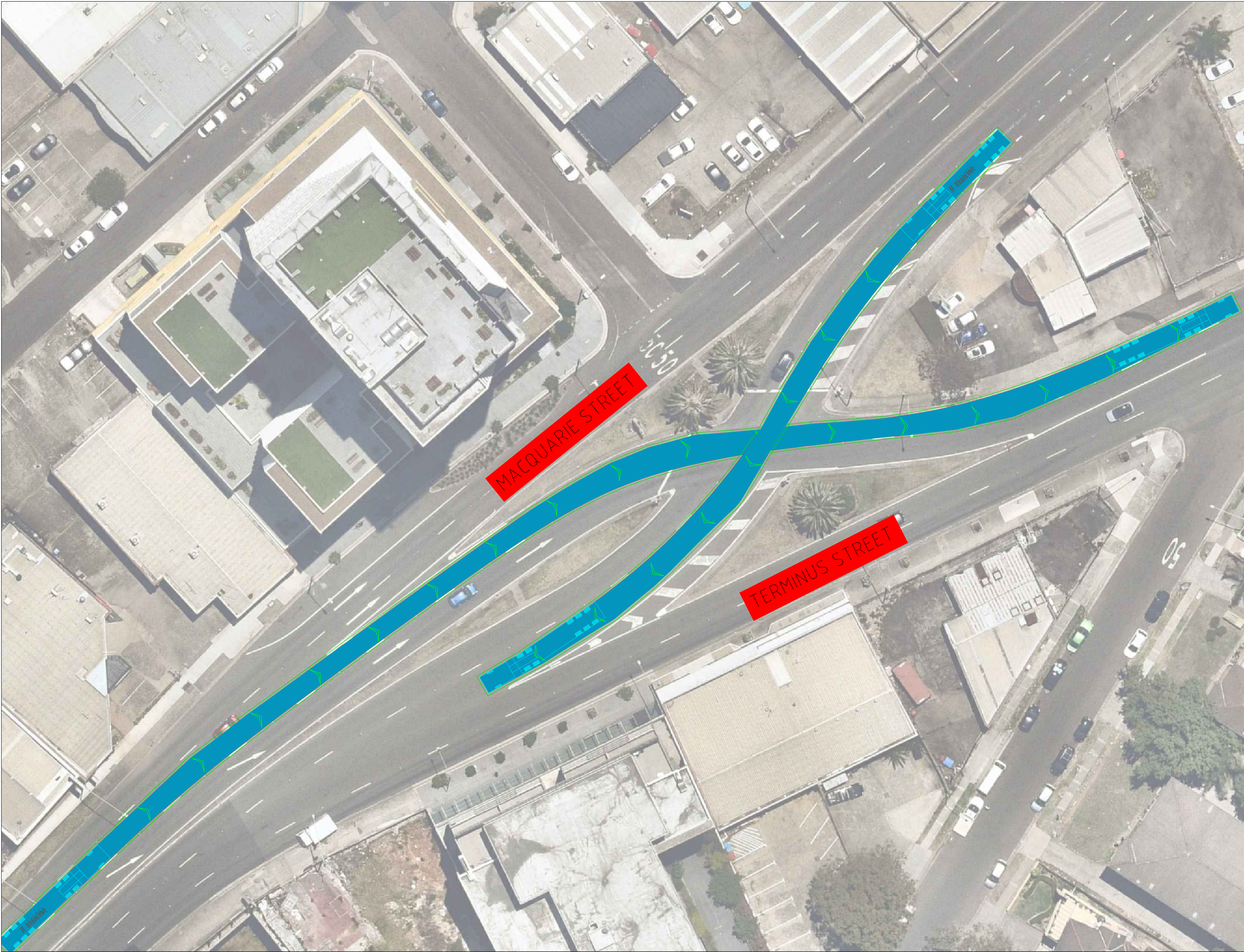
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DRAWING # PTC-001

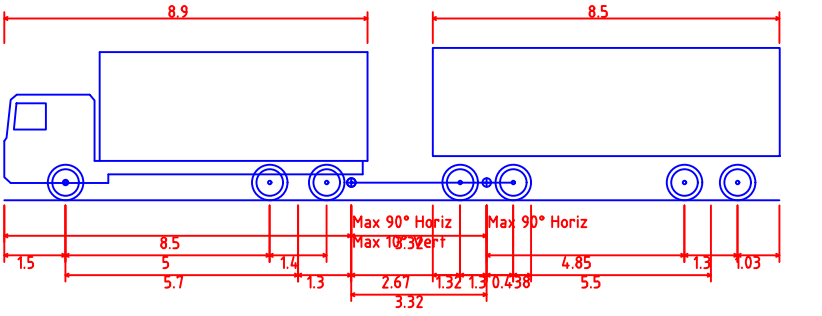
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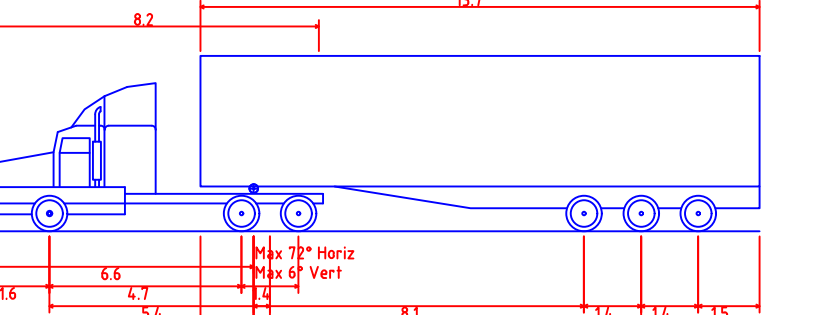
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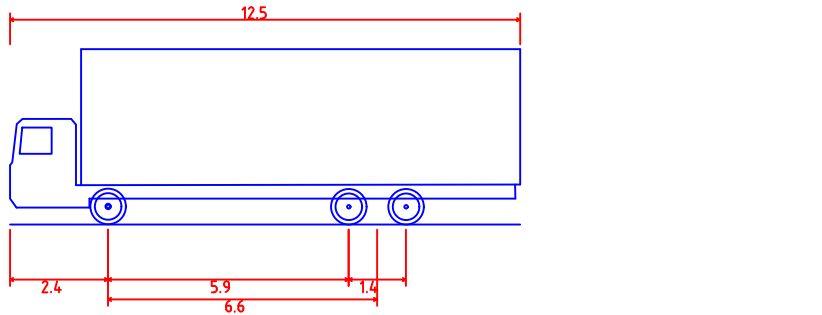
Vehicle Profile



19M TRUCK AND DOG	
Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV - Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



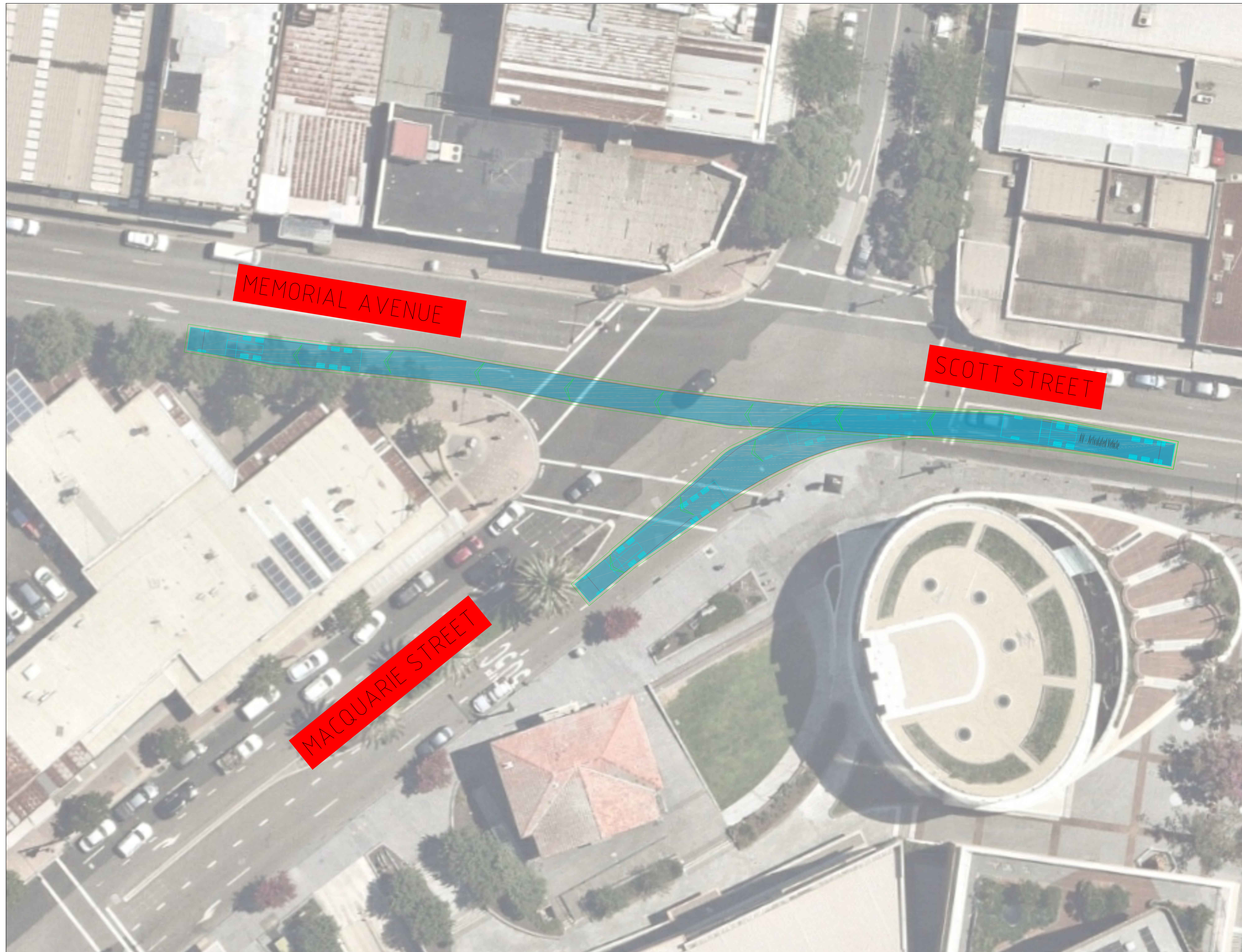
HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
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Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



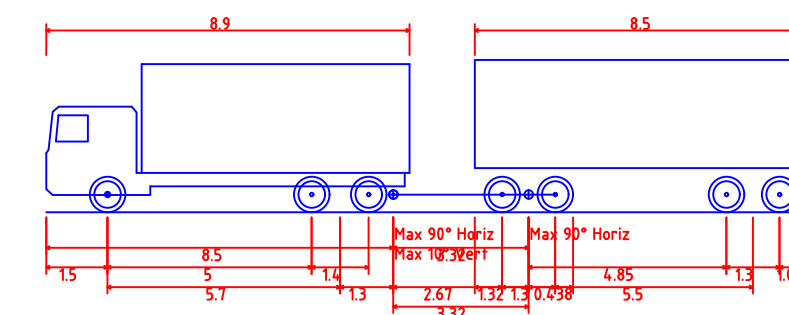
B99 Vehicle (Realistic min radius) (2004)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.878m
Min Body Ground Clearance	0.272m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.250m

TRAFFIC GUIDANCE SCHEME

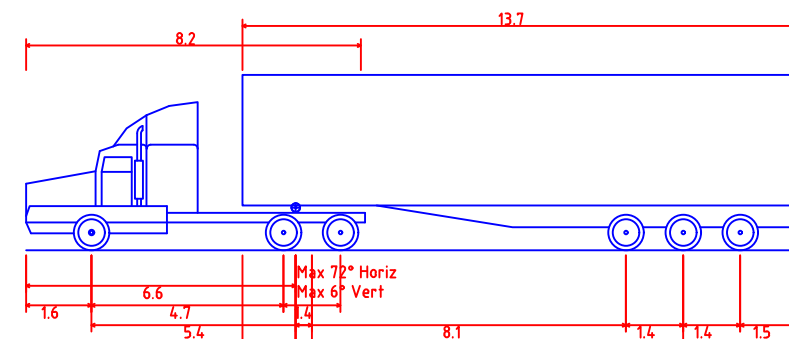
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 - This drawing is not to scale and is to be used for reference purposes only
 - All signage is to be in accordance with TCAWS v6.1 (2022) and set up in visible and appropriate locations
 - TGS signage to be spaced at dimension D in accordance with TCAWS.
- Specific Notes:
- Traffic controller is to be in place on any occasion where any (25 or 20m) articulated semi-trailers are entering or exiting the site.
 - On other occasions, where smaller vehicles are required, the traffic controller may not be required for access and egress swept paths.



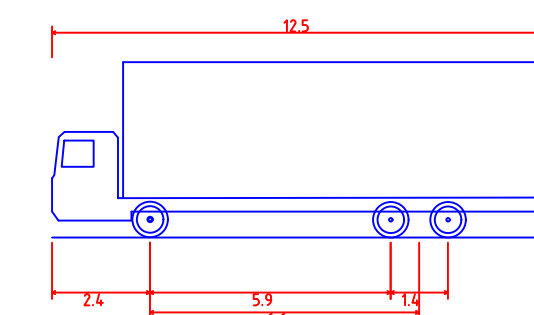
Vehicle Profile



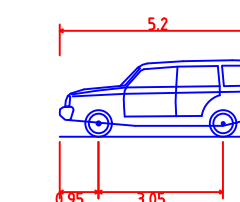
Overall Length	19.000m
Overall Width	2.600m
Overall Body Height	3.738m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	12.000m



AV – Articulated Vehicle	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.301m
Min Body Ground Clearance	0.418m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



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4. This drawing is not to scale and is to be used for reference purposes only
5. All signage is to be in accordance with TCAS v6.1 (2022) and set up in visible and appropriate locations
6. TGS signage to be spaced at dimension D in accordance with TCAS.

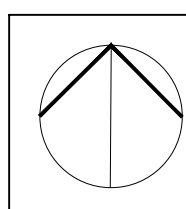
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CLIENT	BUILT DEVELOPMENT GROUP	FOR CONSTRUCTION
DRAWING #	PTC-003	REV P1
PROJECT #	23 - 0767	
SCALE	1 : 200 @ A1 1 : 400 @ A3	

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North Sydney NSW 2060
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ptcconsultants.co

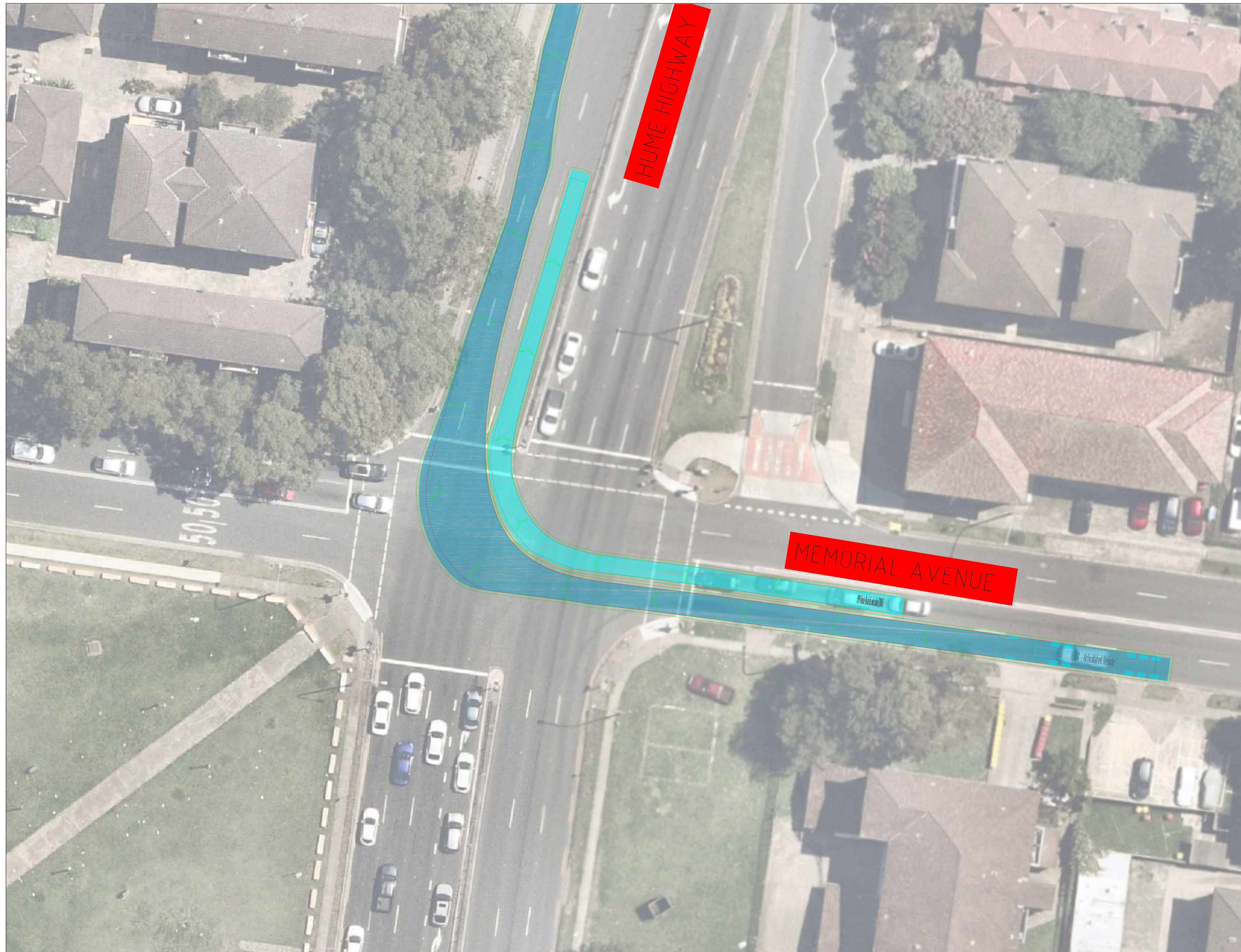
P1	27/03/2024	FOR CONSTRUCTION	PB	AM	
REV	DATE	DESCRIPTION	DRAWN	REVIEWER	



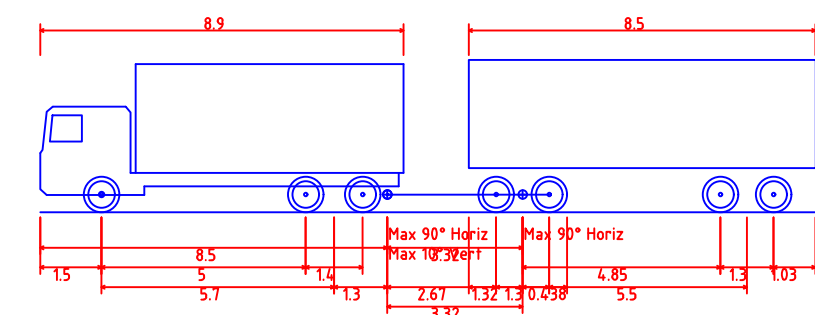
DRAWING KEY

PROJECT
52 SCOTT STREET, LIVERPOOL
CIVIC PLACE - PHASE B

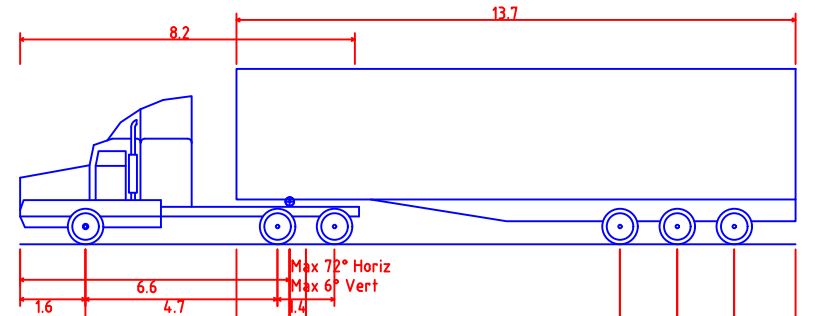
DRAWING TITLE	Construction Vehicle Swept Paths 19m AV Exit
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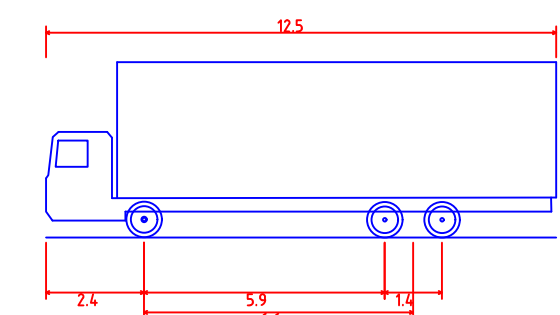
Vehicle Profile



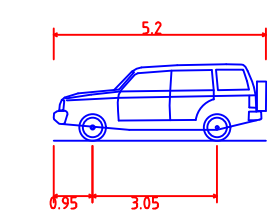
19M TRUCK AND DOG	
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TRAFFIC GUIDANCE SCHEME

General Notes:

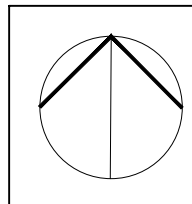
1. All information provided regarding traffic guidance schemes (TGS) is indicative
2. Detailed TGS are to be developed by the appointed traffic control company
3. All TGS revisions or adjustments must be made by a suitably accredited person with the appropriate safework NSW licence
4. This drawing is not to scale and is to be used for reference purposes only
5. All signage is to be in accordance with TCASv6.1 (2022) and set up in visible and appropriate locations
6. TGS signage to be spaced at attention D in accordance with TCASv6.1

Specific Notes:

1. Traffic controller is to be in place on any occasion where any (25 or 20m) articulated semi-trailers are entering or exiting the site.
2. On other occasions, where smaller vehicles are required, the traffic controller may not be required for access and egress swept paths.

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North Sydney NSW 2060
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ptcconsultants.co

P1	27/03/2024	FOR CONSTRUCTION	PB	AM
REV	DATE	DESCRIPTION	DRAWN	REVIEWED



DRAWING KEY

PROJECT
52 SCOTT STREET, LIVERPOOL
CIVIC PLACE - PHASE B

DRAWING TITLE

Construction Vehicle Swept Paths
19m AV Exit & passing a B99
vehicle

CLIENT	BUILT DEVELOPMENT GROUP FOR CONSTRUCTION
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DRAWING # PTC-004

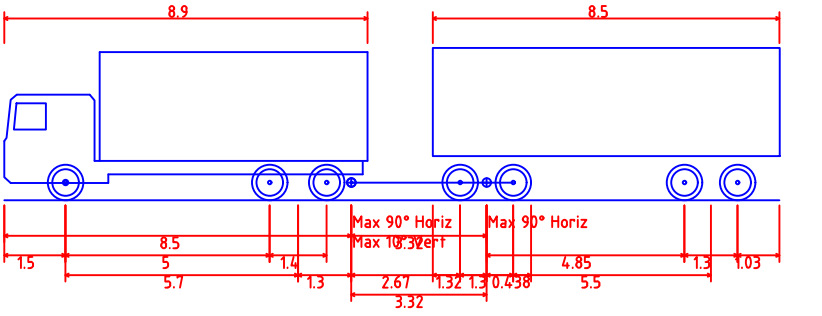
PROJECT #	23 - 0767
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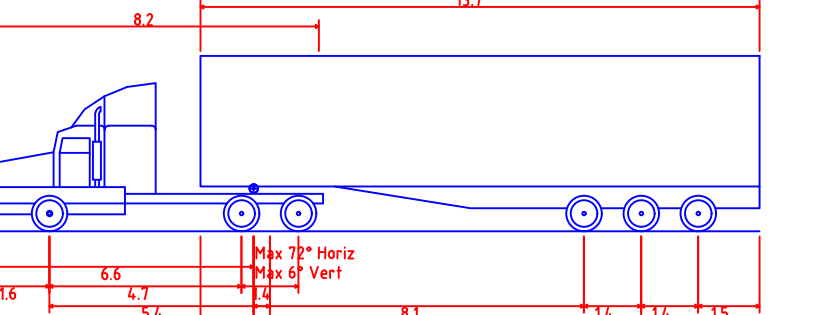
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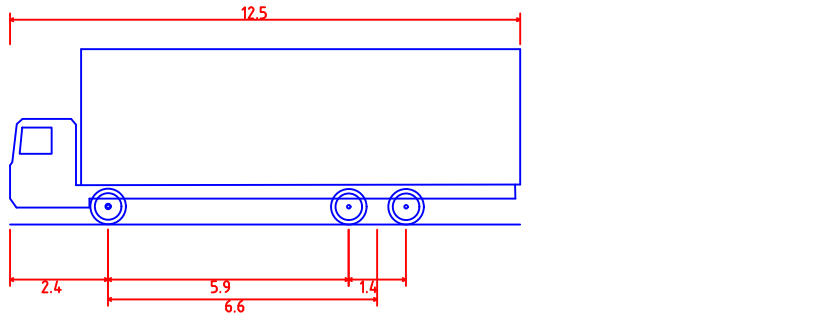
Vehicle Profile



19M TRUCK AND DOG
Overall Length 19.000m
Overall Width 2.500m
Overall Body Height 3.738m
Min Body Ground Clearance 0.427m
Track Width 2.500m
Lock-to-lock time 4.00s
Wall to Wall Turning Radius 12.000m



AV - Articulated Vehicle
Overall Length 19.000m
Overall Width 2.500m
Overall Body Height 4.301m
Min Body Ground Clearance 0.418m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m

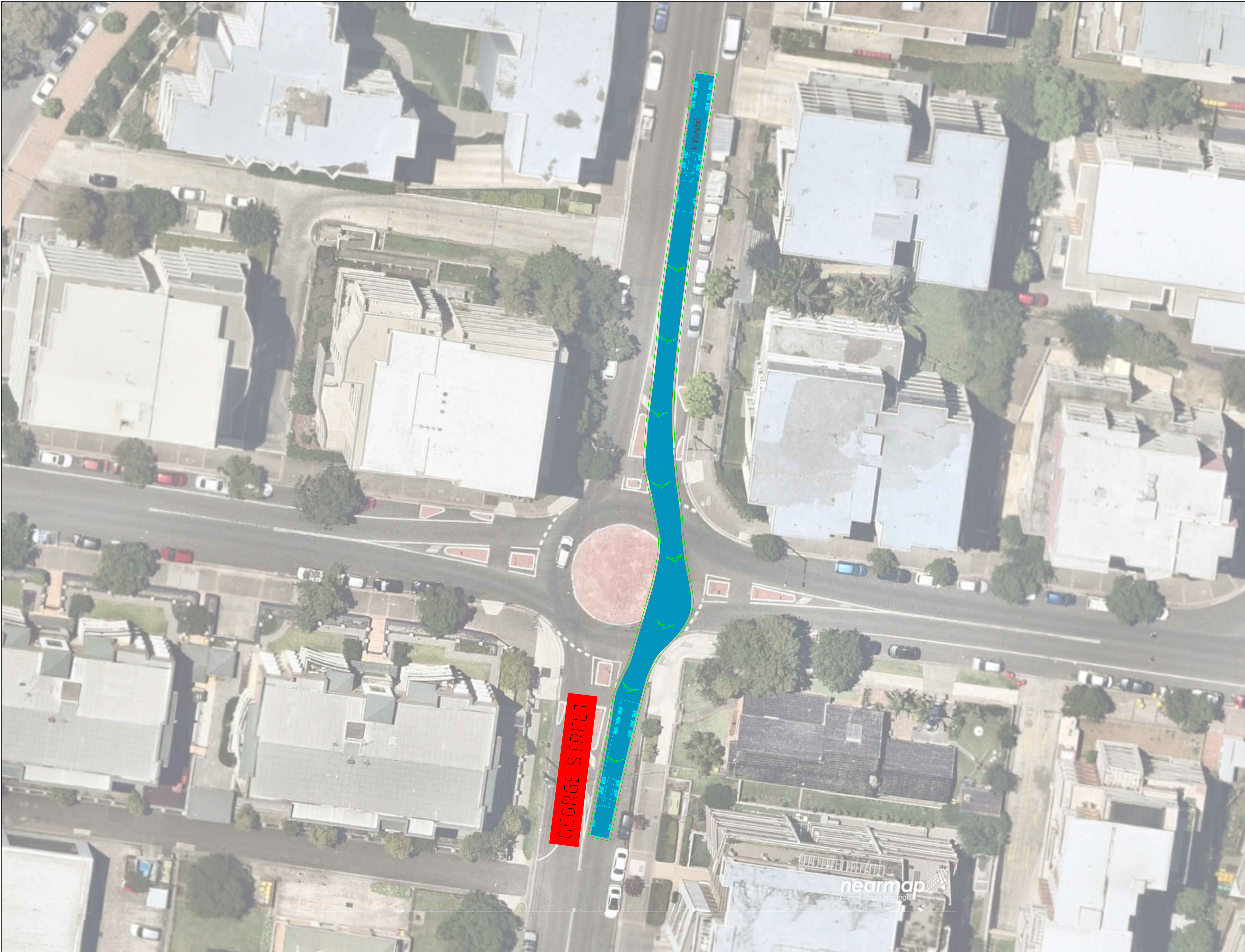


HRV - Heavy Rigid Vehicle
Overall Length 12.500m
Overall Width 2.500m
Overall Body Height 4.300m
Min Body Ground Clearance 0.417m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m

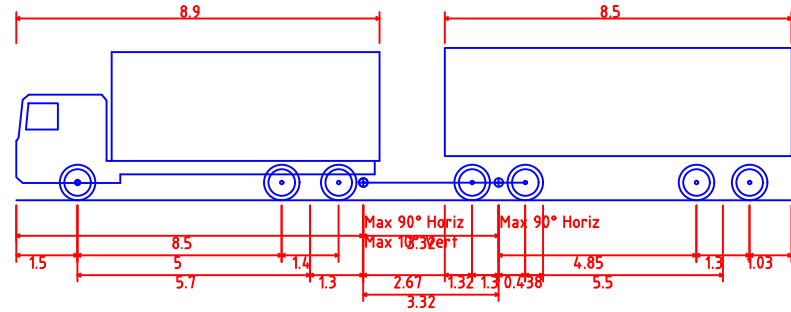


B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.878m
Min Body Ground Clearance 0.272m
Track Width 1.840m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 6.250m

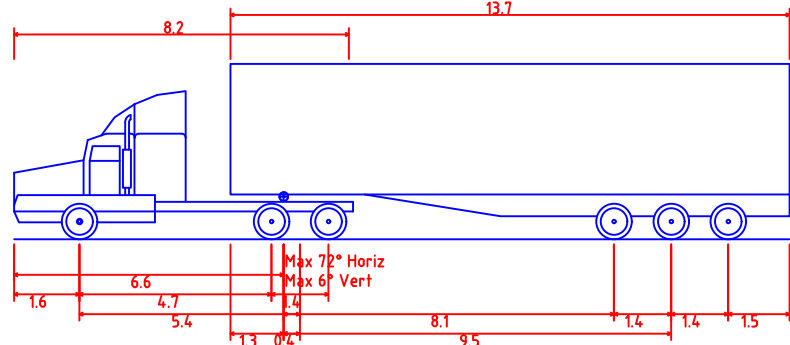
- TRAFFIC GUIDANCE SCHEME
- General Notes:
- All information provided regarding traffic guidance schemes (TGS) is indicative
 - Detailed TGS are to be developed by the appointed traffic control company
 - All TGS revisions or adjustments must be made by a suitably accredited person with the appropriate safework NSW licence
 - This drawing is not to scale and is to be used for reference purposes only
 - All signage is to be in accordance with TCAWS v6.1 (2022) and set up in visible and appropriate locations
 - TGS signage to be spaced at dimension D in accordance with TCAWS.
- Specific Notes:
- Traffic controller is to be in place on any occasion where any (25 or 20m) articulated semi-trailers are entering or exiting the site.
 - On other occasions, where smaller vehicles are required, the traffic controller may not be required for access and egress swept paths.



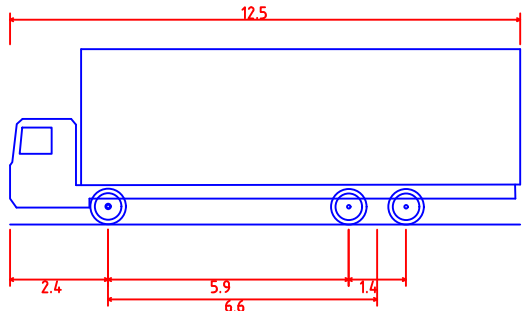
Vehicle Profile



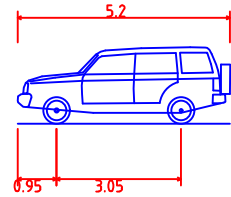
19M TRUCK AND DOG
Overall Length 19.000m
Overall Width 2.500m
Overall Body Height 3.738m
Min Body Ground Clearance 0.427m
Track Width 2.500m
Lock-to-lock time 4.00s
Wall to Wall Turning Radius 12.000m



AV - Articulated Vehicle
Overall Length 19.000m
Overall Width 2.500m
Overall Body Height 4.301m
Min Body Ground Clearance 0.418m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m



HRV - Heavy Rigid Vehicle
Overall Length 12.500m
Overall Width 2.500m
Overall Body Height 4.301m
Min Body Ground Clearance 0.417m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m



B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.878m
Min Body Ground Clearance 0.272m
Track Width 1.840m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 6.250m

TRAFFIC GUIDANCE SCHEME

- General Notes:
- All information provided regarding traffic guidance schemes (TGS) is indicative
 - Detailed TGS are to be developed by the appointed traffic control company
 - All TGS revisions or adjustments must be made by a suitably accredited person with the appropriate safework NSW licence
 - This drawing is not to scale and is to be used for reference purposes only
 - All signage is to be in accordance with TCAWS v6.1 (2022) and set up in visible and appropriate locations
 - TGS signage to be spaced at dimension D in accordance with TCAWS.
- Specific Notes:
- Traffic controller is to be in place on any occasion where any (25 or 20m) articulated semi-trailers are entering or exiting the site.
 - On other occasions, where smaller vehicles are required, the traffic controller may not be required for access and egress swept paths.

ptc. Suite 502, 1 James Place North Sydney NSW 2060 t +61 2 8920 0800 ptcconsultants.co						DRAWING KEY		PROJECT 52 SCOTT STREET, LIVERPOOL CIVIC PLACE - PHASE B	DRAWING TITLE Construction Vehicle Swept Paths 19m AV Exit	CLIENT	BUILT DEVELOPMENT GROUP FOR CONSTRUCTION	
	DRAWING #	PTC-006		REV P1								
	PROJECT #	23 - 0767										
	SCALE	1 : 250 @ A1 1 : 500 @ A3										
	P1	27/03/2024	FOR CONSTRUCTION	PB	AM							
	REV	DATE	DESCRIPTION	DRAWN	REVIEWED							

Attachment 2 Traffic Guidance Scheme (TGS)

