

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

Sydney Metro West – Western Tunnelling Package

Unwin St and Kay St 56hr Closure

8th December 2023 – 11th December 2023

Document Reference #: SMWSTWTP-GLO-CLJ-TF-PLN-000005

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Revision History

A	October 2023	IFR to Stakeholders
B	November 2023	Comments from Transport

Document Authorisation

Action Type	Position	Name	Signature	Date Signed
Prepared by	Traffic Manager	Alex Crane		10/11/2023
Reviewed by	Logistic Project Manager	Daniel Kelly		10/11/2023
<p>I hereby confirm this activity and all associated work, have been appropriately planned and the relevant resources are available to conduct the work in accordance with the agreed method.</p> <p>I hereby approve this activity to commence, as the stated controls applications are the most appropriate and are in accordance with the Risk Matrix.</p>				
Approved by	Deputy Project Director	S Hussey		10/11/2023

NOTES: Once all signatures have been obtained, the Document Author is responsible for ensuring the signed and approved hard and soft copies are uploaded on to the project share drive or passed to the Responsible Person for filing.

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1.1 Purpose

This document has been prepared to assist GLC with the implementation of the 56hr road closure of Unwin St and Kay St.

This plan sets out the traffic management initiatives that will be deployed to minimise disruption and ensure the safety of the wide range of stakeholders potentially affected by the 56hr closure works including but not limited to motorists, pedestrians, cyclists, public transport users, local residents, property owners, business owners and workers/ staff along Unwin Street and Kay St during the 56hr traffic diversion for construction of stage 2 and Stage 3

1.2 Clyde/Rosehill Construction Traffic Management Plans

Plan #	Plan name	Description	Status
SMWSTWTP-GLO-1NL-NL000-TF-PLN-00001	Project Wide CTMP	Overarching Traffic Management Plan	Approved
SMWSTWTP-GLO-CLJ-TF-PLN-000001	Clyde/Rosehill Site Establishment	For works to establish the Clyde/Rosehill sites	Approved
SMWSTWTP-GLO-CLJ-TF-PLN-000004	Clyde/Rosehill Site Operations	Site Operating Conditions at Clyde/Rosehill	Approved
SMWSTWTP-GLO-CLJ-TF-PLN-000005	Unwin ST and Kay St 56hr Closure	Stage 1A, Stage 1B, Stage 2, and Stage 3 road alignment and associated traffic switch	Approved
Plans have been prepared in accordance with SSI 10038 Planning Approval Condition D85 and will be submitted to the Planning Secretary of the NSW Department of Planning and Environment for information prior to the commencement of any construction in the area identified and managed within this CTMP			

1.3 56hr Day to Day Activities

During the 56hr Closure construction staging from Stage 1B through to Stage 2 & Stage 3 below is a brief indication of what works are planned on each day:

On Friday at 10pm full road closure of Unwin St and Kay St will be implemented, Once all Traffic Control Measures, traffic diversions are in place for the closure the following are to occur day to day:

Friday 8/12 10:00pm – 11:59pm;

- Installation of Barriers along Southern Verge of Unwin St,
- Removal of Existing Concrete Kerb

Saturday 9/12 12:00am – 11:59pm;

- Removal of existing kerbs and footpaths
- Excavation and installation of southern drainage Line
- Saw cutting existing kerbs, footpaths and tie-ins.
- Connection of new drainage line to existing drainage pit
- Backfill of draining line

Sunday 10/12 12:00am – 11:59pm;

- Placement of AC pavement
- Placement of barrier systems
- Installation of signage and gates
- Installation of temporary fencing to ensure site is secure.
- Line marking tie in areas on Wentworth St and Unwin St
- Clearing of work areas to ensure road is clear.
- Open new path on western side of Wentworth St and eastern side of Unwin st

Monday 11/12 12:00am – 5:00am;

- Contingency for fix up works
- Removal of Traffic Control
- Road re-open to traffic under Stage 3 as per design drawing SMWSTWTP-GLO-CLJ-TD700-TW-DRG-512001 - 512122

Refer to [Appendix D](#) for Hour by Hour break down.

2 Site Operations

2.1 Operating Conditions

The 56hr Closure will close Unwin St at the Shirley St Intersection and Kay St at Wentworth St and Martha St intersection shown in [Figure 1](#). Vehicle access to and from the construction site will be managed at each closure point by Traffic Control to maintain a safe access and egress.

General traffic will be detoured around the closure area as per detour routes refer to [Appendix A](#).

Higher mass vehicles access will be directed to use Shirley St turnaround point refer to [Appendix A](#)

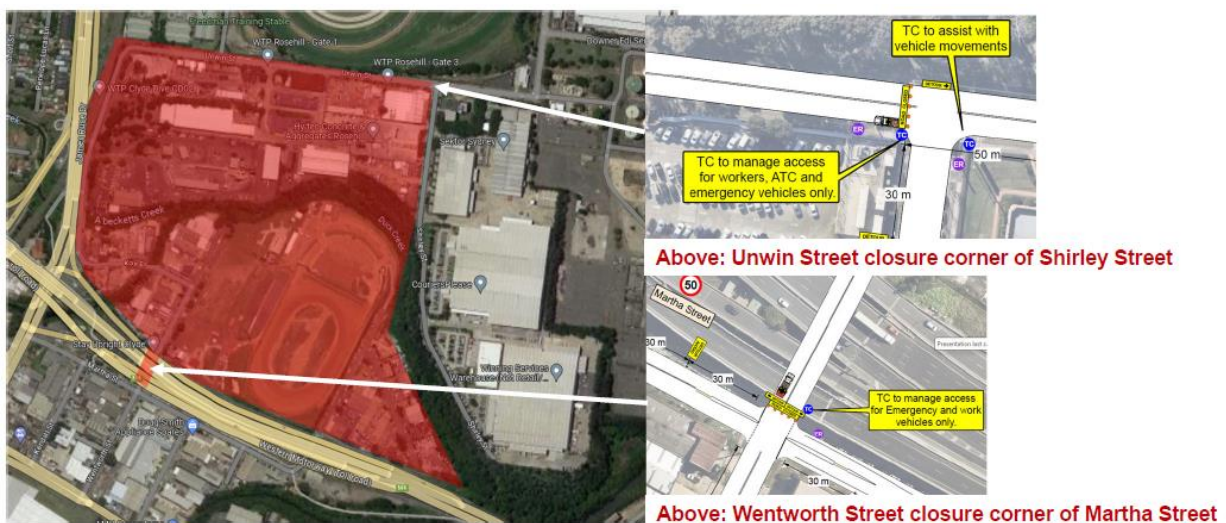


Figure 1 Kay St and Unwin St Closure

2.2 Working Hours

The closure for the traffic switch is planned for the following 56hr Period:

2200 Friday 8th December 2023 to 0500 Monday 11th December 2023

2.3 Impacts on Properties and Utilities

During the 56hr closure the following business will be affected:

- ATC (Australian Turf Club),
- Stay Upright Clyde
- Courier Routes (Winning services Warehouse, Courier Please & Team Global Express)

As per Stakeholder Consultation in [Appendix C](#), GLC will hold a discussion with the affected business's closer to the date and advise access will be maintained via traffic control, Additional Signage will be provide stating that the business's are still open.

Courier's routes will be advised to use alternated route and provided map of route prior to closure.

2.4 Community Consultation

Community Consultation by GLC will be undertaken by TTLG & TCG Meetings established by Sydney Metro for the project,

Refer to [Appendix C](#) for Stakeholder Consultation over the 56hr Closure.

2.5 Emergency Services

Once all Approvals have been acquired by stakeholders, Relevant Emergency Services will be informed as part of GLC Stakeholder engagement, as per relevant activities proposed within this CTMP.

The initial communication to these stakeholders will be via the TTLG. Regular updates will be provided to Emergency Services representatives noting changes to the road network, changes to road conditions and worksite access locations. This communication will be via emails and face to face discussions.

Access to properties for emergency vehicles will be provided at all times.

2.6 Traffic Guidance Schemes

Gate management may be required where heavy vehicle access/ egress points interact with footpaths/shared paths. The TGS for gate management is provided in [Appendix A](#).

3 56hr Shut Down

The works associated with 56hr Shut down of Unwin Street and Kay St for Road re-alignment, captured in this CTMP, have been separated into two (2) construction stages, as identified in Table 1

The construction works associated with each stage are completed during the 56hr closure refer to [Appendix A](#) for the TGS and proposed detour routes required for the implementation of the road closure.

Table 1 56-Hour Shutdown Dates

Stage ID	Activity	Proposed Dates
Stage 2 and Stage 3	Complete road re-alignment, including line marking and signage installation/re-locations at Kay St and Unwin St onto the newly constructed road pavement. Installation of safety barrier systems. Form and pour new footpaths on the eastern side of Wentworth Street.	10pm 8th – 5am 11th December 2023
		10pm 15th – 5am 18th December (contingency)

3.1.1 Road Safety Barrier Systems

Upon Completion of the 56hr closure GLC will have installed TfNSW approved Temporary Road Safety Barrier. This system is specific for a MASH TL3 containment level (100km/h impact speed) which is conservative for the design speed of this project which is 40km/h

however the barriers selected are to the reduced dynamic deflection performance to enable the construction sites working width to be safely maximised as much as possible.

3.1.2 Desktop Road Safety Audit

A Desktop Road Safety Audit was completed on the TGS's for the road closure refer [Appendix A](#) for TGS,

[Appendix B](#) will include the full Desktop RSA, including responses for the findings.

Once 56hr Closure is completed a onsite day and night RSA will be conducted due to change of road alignment as per stage 3 of design drawing - SMWSTWTP-GLO-CLJ-TD700-TW-DRG-512001 - 512122

3.1.3 Variable Message Signs (VMS)

C Class Trailer mounted VMS shall be implemented for use during the construction period. The locations of the VMS and the messages displayed must be agreed with TfNSW. The VMS shall be located at prominent locations on all approaches to Unwin St and Kay St. The primary function of the VMS is to inform road users of any changes to traffic conditions, changes to road conditions and any potential delays.

The placement locations of the VMS must be endorsed by TfNSW and approved by TfNSW.

During the period of operation of the road occupancy, the VMS will be continuously operated to notify all road users of the closure and its effects. The VMS will have a remotely controlled twenty-four-hour message change facility to enable you to make immediate changes to the messages on the VMS. The VMS must be installed at a minimum of seven (7) days to the day of the implementation of the road occupancy, as to provide advance notification to all road users of the future road occupancy.

VMS will be left once traffic switch has been completed during the 56hr closure for 2 weeks as to provide advance notification to all road users on changes of road.

Refer to VMS Strategy in [Appendix E](#) for VMS that will remain for the 2 weeks after

3.1.4 Pedestrian and Cyclist Impacts

During the 56-hour shut down footpaths will be closed from Wentworth St-Martha St intersection through to Unwin St-Shirley St intersection. Access through the area will be by exception under GLC escort.

Upon reopen of Unwin St and Kay St the western footpath along Wentworth Street, between Martha Street and Kay Street, and the pedestrian underpass of the M4 Western Motorway, between James Ruse Drive and Unwin Street, will be permanently closed.

Pedestrian wayfinding signage will be installed as per the long-term footpath closure TGS in [Appendix A](#) and as shown indicatively in Figure 2.

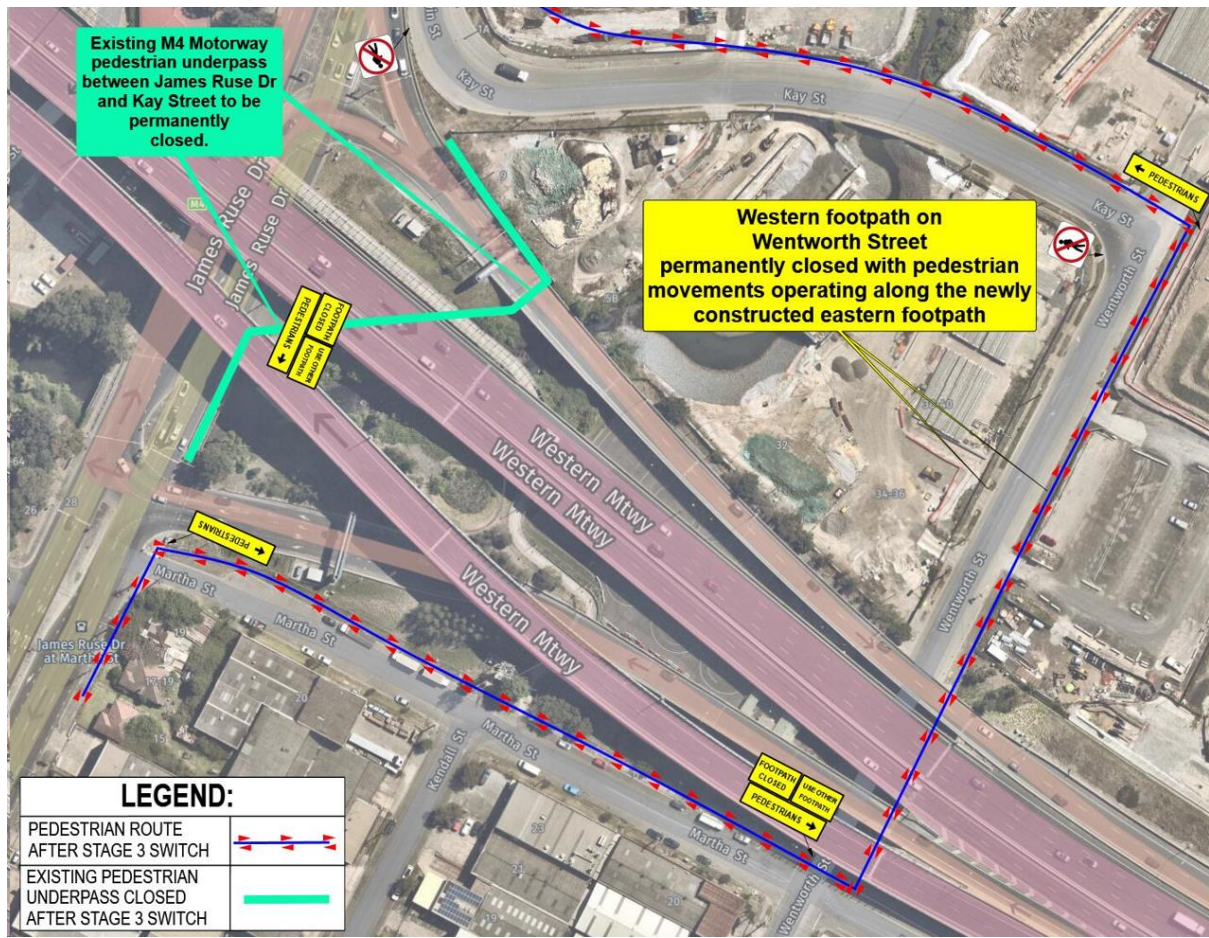


Figure 2 Wentworth St and M4 Underpass Footpath Diversions Overview

The M4 Motorway pedestrian underpass as shown in Figure 3 will be closed long-term. A waterfilled barrier will be installed across the pedestrian access with a pedestrian fence installed on top to prevent pedestrian access to the footpath.



Figure 3 M4 Motorway Pedestrian Underpass Closure

Cyclist using the road network will be unimpacted once road is re-open, and cyclists under 16 years using the footpath will be required to follow the same detour as pedestrians.

3.1.5 Installation of Pedestrian Refuge Island Crossing

A pedestrian refuge island will be installed during the 56hr closure to assist pedestrians accessing the western footpath.

If works on the island are not completed during the closure, if required a shuttle flow traffic control conditions under approved dayshift road occupancy.

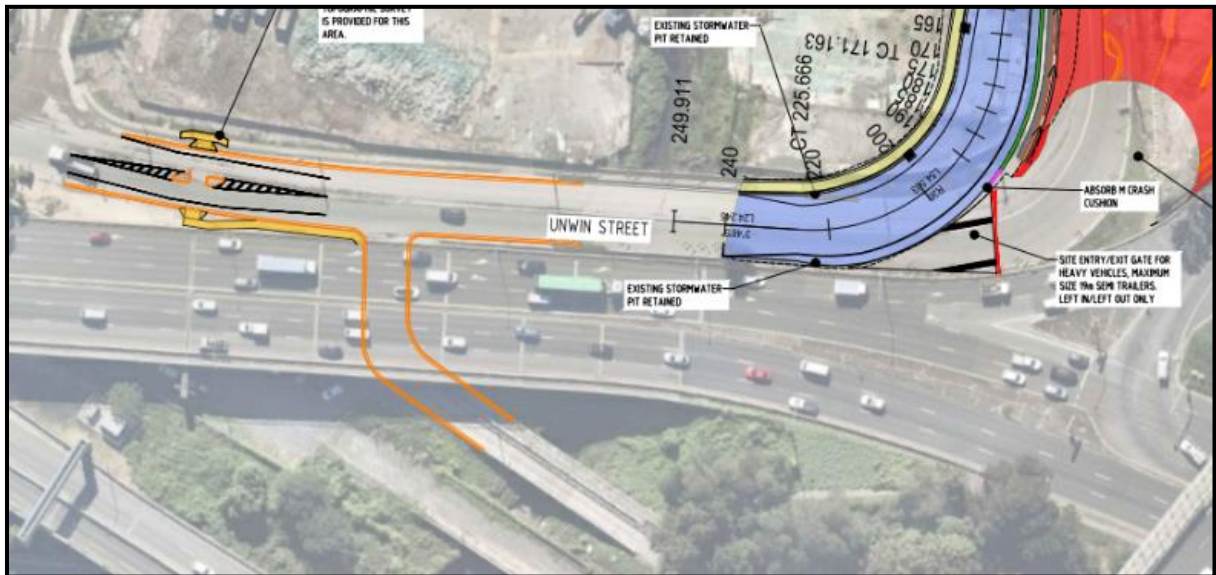


Figure 4 Unwin Street Pedestrian Refuge Island overview

3.1.6 Signage and Speed limit changes

During the 56-hour GLC will be installing new signage along Wentworth St, Kay St & Unwin St, which will be out for the long-term during construction,

As part of the signage being installed a long-term speed reduction will be implemented, reducing the speed down to 40km/h RW through the area.

Refer to Figure 5 for Stage of works post 56hr Shutdown as per design drawing SMWSTWTP-GLO-CLJ-TD700-TW-DRG-512001 - 512122

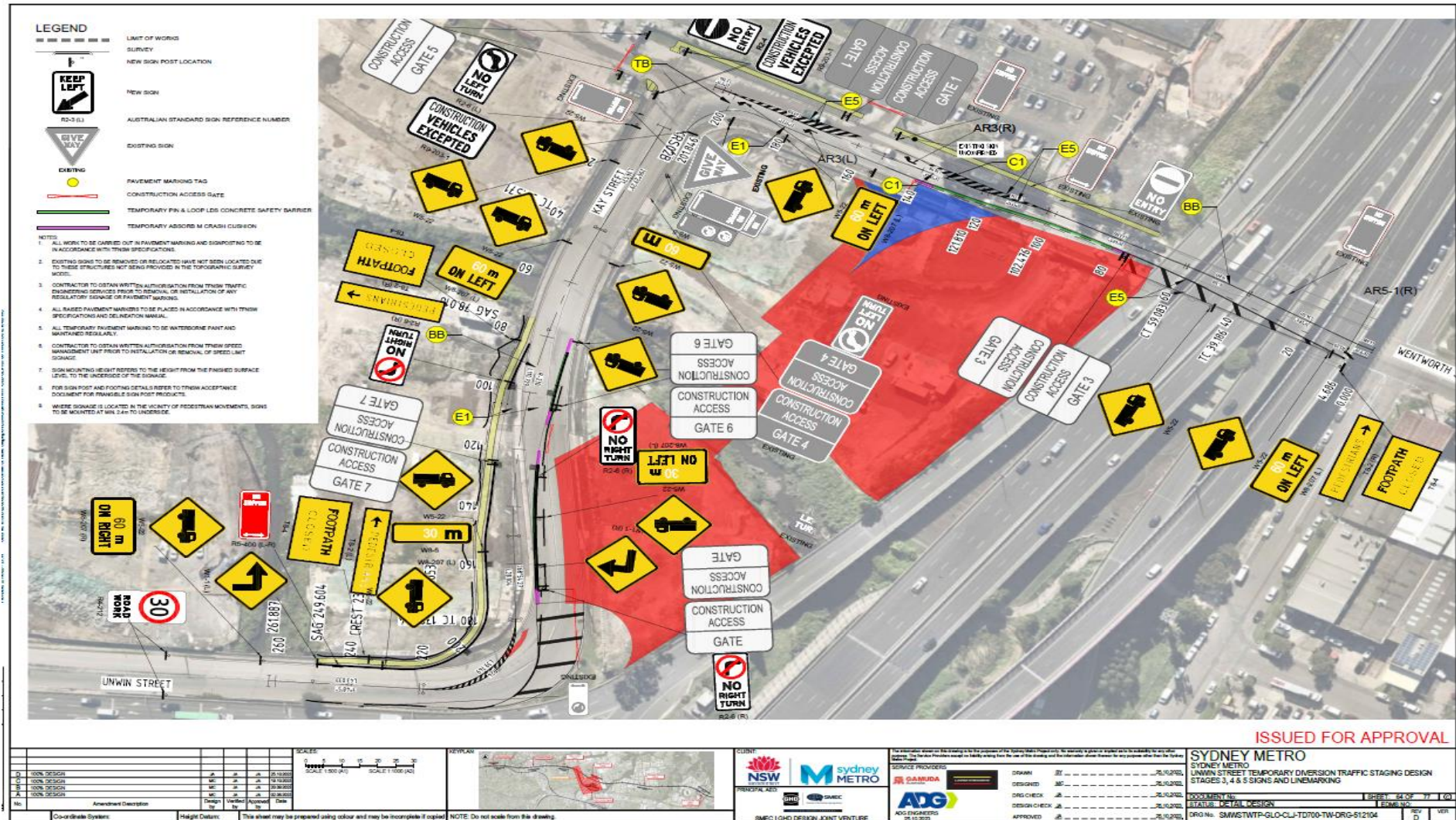


Figure 5 Unwin Street Stage 3 post 56hr closure

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13/11/2023

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3.2 Emergency and Incident Management

In the event of an incident that has the potential to impact traffic or public transport, at sites managed by GLC, GLC will ensure that traffic control resources are provided. These resources include:

- Traffic control personnel
- Traffic control vehicle containing:
 - Barrier boards
 - Cones/ bollards
 - Flashing arrow
 - Signs
 - Spill kit

GLC will report all traffic incidents to Sydney Metro, the Transport Management Centre (13 17 00) and Customer Journey Planning.

3.3 On-Site Contacts

Table 2 Clyde/Rosehill Site Contacts

Priority	Name	Position	Organisation	Contact #	Email
1 st	Alex Crane	Traffic Manager	Quickway	0408 169 716	Alexc@Quickway.com.au
2 nd	Daniel Kelly	Logistic Manager	GLC	0437 315 649	Daniel.kelly@glcwtp.com.au
3 rd	Mark Matkovich	Project Manager	GLC	04117 064 346	mark.matkovich@glcwtp.com.au
4 th	Chad Richmond	Superintendent	GLC	0419 382 572	chad.richmond@glcwtp.com.au

4 Appendix A – TGS's

TGS#	Location	Between		Time of Day	Traffic control	Works	Impacts
TGS-61681-GLC 151	Kay St & Unwin St	Wentworth St	Shirley St	56hr Closure	Road Closure	Traffic Switch to Stage 2 & 3	Multiple Detours involving Traffic Delays
TGS-61681-GLC 155	Kay St	Wentworth St	Unwin St	Day/ night	Pedestrian management	pavement works – Northern side	Temporary Footpath for pedestrian access around works on existing pavement
TGS-61681-GLC 157	Shirley St	Unwin St	Shirley St	Day/ night	Swept Path	Vehicle's using the turn around site on Shirley St	NA

TGS Risk Assessment

Hierarchy of Controls




1. Eliminate the hazard altogether.
eg. Road closures.
2. Substitute the hazard with a safer alternative.
eg. Using PTCs instead of stop bats.
3. Isolate the hazard from anyone who could be harmed.
eg. Drop zones for clients works in elevated work zones.
4. Use engineering controls to reduce the risk.
eg. The use of traffic control devices to protect work area.
5. Use administrative controls to reduce the risk.
eg. Ensure personnel are trained in their field.
6. Use PPE.
eg. Wearing gloves while manual handling.



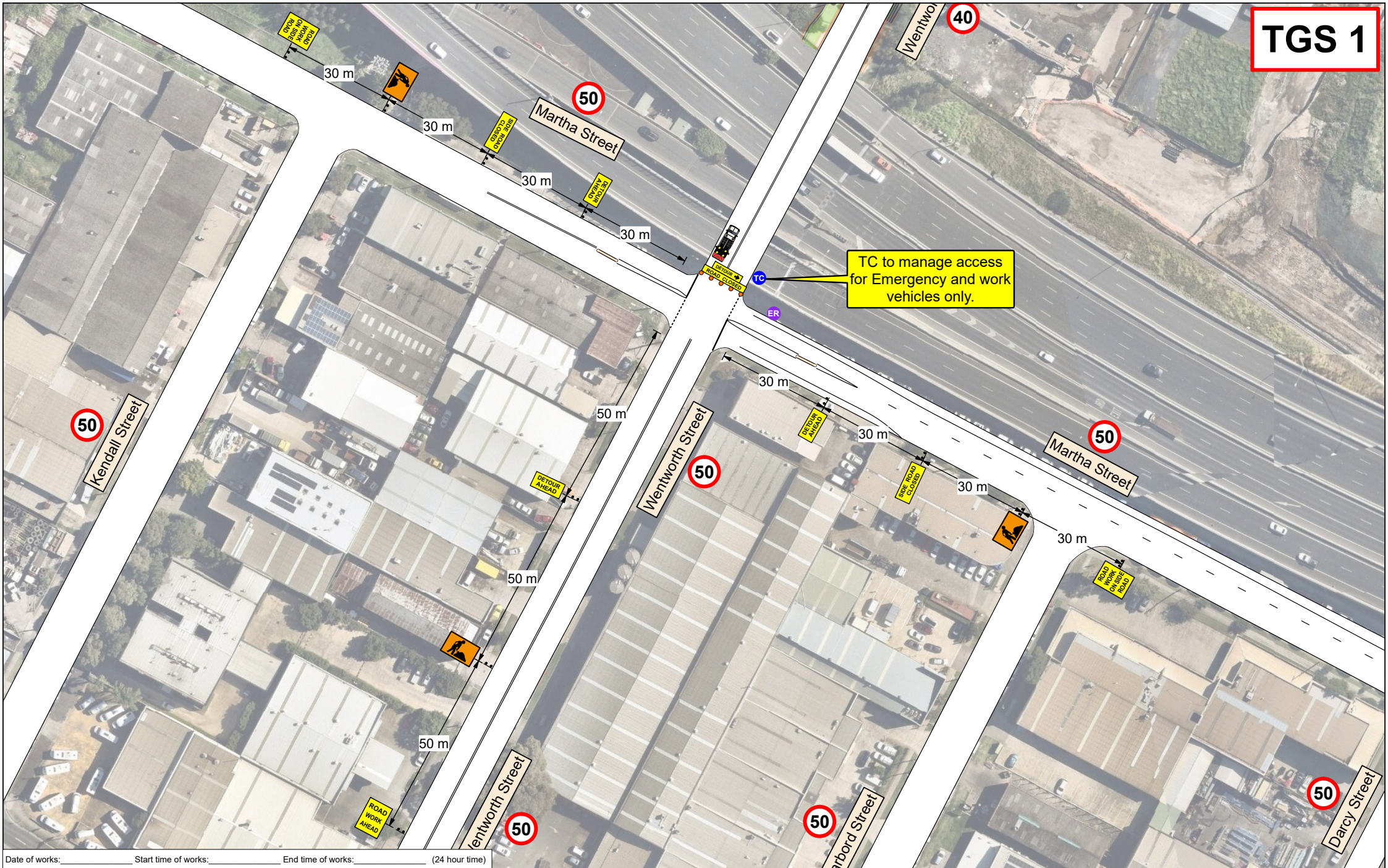
Step 2 - Probability	Almost Certain (5)	The threat can be expected to occur 75% - 99%	Common / Frequent Occurrence	More than 1 event per month	Step 1 - Consequence (impact)				
	Likely (4)	The threat will quite commonly occur 50% - 75%	Is known to occur or "it has happened regularly"	More than 1 event per year	Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Severe (5)
	Possible (3)	The threat may occur occasionally 25% - 50%	Could occur or "I've heard of it happening"	1 event per 1 to 10 years	First Aid Treatment	Medical Treatment	Lost Time Injury	Permanent Impairment Injury	Fatality
	Unlikely (2)	The threat could infrequently occur 10% - 25%	Not likely to occur very often	1 event per 10 to 100 years	Very minor injury that requires no treatment or simple first aid	Injury / illness, which requires medical treatment and may temporarily restrict a persons capacity to work	Injury / illness, which temporarily restricts a persons ability to work in any capacity	Injury / illness, which permanently alters a persons future (eg. Spinal injury, amputation or death)	
	Rare (1)	The threat may occur in exceptional circumstances "The threat may occur occasionally 0% - 10%	Conceivable but only in exceptional circumstances	Less than 1 event per 100 years	Short term damage	Limited but medium term damage	Significant but recoverable ecological damage	Heavy ecological damage, costly restoration	Permanent widespread ecological damage
					Brief delay / slight impact on service delivery	Local or work site specific impact on service delivery or customer satisfaction	Temporary impact on service delivery or customer satisfaction at a local level / project level	Serious impact on service delivery or customer satisfaction at a state client or large project level	Long term or very severe impact on service delivery or customer satisfaction resulting in loss of business nationally

Item #	Worksite Component	Potential Hazard	Initial Risk			Present	Control Measures	Residual Risk		
			C	P	R			C	P	R
Acceptance										
1.0	TGS Drawn / implemented by unqualified person or organization	TGS Drawn / implemented by unqualified person or organization	5	3	23	Y	<ul style="list-style-type: none">- Design and implement TGS in accordance with TCAWS, AS1742.3 and AGTTM- Ensure all relevant traffic management personnel involved in the design and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake.	4	1	13
Departures										
2.0	Stop bat used instead of PTC	Traffic controller hit by vehicle	5	4	24	N	<ul style="list-style-type: none">- Consider use of shadow vehicles if practical, or other type of static hard cover available (i.e. safety barrier)- Ensure best possible escape route considered when allocating control point on TGS - to be reassessed onsite continuously- Ensure best line of sight where practical. Should the best line of sight not be possible, repeater signs in advance warning to be used.- Traffic controller to always remain clear from travelled path.- Ensure appropriate speed signage has been installed and meets minimum and maximum length requirements.	4	2	14
Advanced Warning										
3.0	VMS	Motorist collides with VMS, motorist confused by VMS	4	4	20	Y	<ul style="list-style-type: none">- Always place VMS behind an approved safety barrier or as far away from the edge of traffic lane as is practical in a position determined suitable based on a documented risk assessment.- The location is to be confirmed by Risk Assessment	3	2	11
3.1	Long Term Works	Confused motorist collides with worker	4	4	20	Y	<ul style="list-style-type: none">- Always install RWA (T1-1) on long-term road work sites- Consider using VMS's	3	3	12
3.2	Delays or Queue extends beyond advanced warning signs	Motorist collides with end of queue	4	4	20	N	<p>Always:</p> <ul style="list-style-type: none">- Work in accordance with the approved and appropriate ROL- Use two-way communication with trucks and give them priority whenever possible- Monitor queue lengths- Install additional signs or use additional traffic controllers or stop work and clear traffic if end of queue extends beyond the advance warning signs- Give emergency vehicles & wide loads priority (i.e. stop work & traffic) <p>Consider:</p> <ul style="list-style-type: none">- Working outside peak periods- Liaising with TMC for assistance with traffic signal phasing- Using VMS's- Notifying emergency services- Use of flashing beacon to be added to advance warning signage- Use of queue monitors- Ensure TGS has been designed to cater for the predicted queue lengths where required.	4	2	14
3.3	Changed traffic conditions (eg Slippery surface, no lines, changed line marking, banned turning movements, detours)	Motorist loses control, is confused, or attempts a banned manoeuvre causing MVA	4	4	20	Y	<p>Always:</p> <ul style="list-style-type: none">- Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or unexpected conditions such as loose stones or the absence of line marking- Erect Condition signs in accordance with TCAWS Manual- Provide delineation or temporary line marking and ensure this is clearly shown on the TGS- Use Traffic Control to manage changed traffic conditions where required.- Check setup before commencing work- Ensure appropriate permission for any detours- Speed reduction installed to suit road conditions- Consider using VMS's	3	2	11

Item #	Worksite Component	Potential Hazard	Initial Risk			Present	Control Measures	Residual Risk		
			C	P	R			C	P	R
3.4	After care	Inadequate signage resulting in motorist losing control and crashing or motorist becomes frustrated due to inappropriate signage	4	4	20	N	<ul style="list-style-type: none"> Always: - Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or unexpected conditions, such as loose stones or the absence of line marking - Cover any signs that are not applicable - Erect Condition signs in accordance with TCWS Manual - Provide delineation or temporary line marking - Aftercare speed limit to suit road conditions 	3	3	12
3.5	Poor sight distance or speed compliance or Approach speed > 85km/h, or multi lane roads with traffic volume > 10,000vpd	Speeding vehicle doesn't have time to react and fails to negotiate merge taper	5	4	24	Y	<ul style="list-style-type: none"> Always: - Install RW 1km Ahead if approach speed is > 85km/h or sight distance is less than 150m - Use 900mm cones where traffic speed is greater than 75km/h - Use 500mm cones on high speed to high volume roads (e.g., expressway) or on any work site where increased visibility is required - Duplicate Lane status sign. Consider: - Installing RWA (T1-1) - Increasing taper lengths - Increasing the number of advance warning signage installed - Increasing the size of signage installed - Need for duplication of signs. 	4	2	14
3.6	Side Roads	Vehicles enters work site from a side road and collides with workers	3	4	17	Y	<ul style="list-style-type: none"> - Always install advance warning signage for vehicles entering from side road in advance of the work site. 	3	2	11
3.7	Temporary Speed Zone	Motorist travelling too fast for the conditions causing MVA	5	4	24	N	<ul style="list-style-type: none"> - Ensure speed zones are designed in accordance with TCAWS, AS1742.3 and AGTTM. - Ensure speed zoning is consistent with the work activity and road environment. - Consider the use of speed radar VMS to monitor traffic speeds and advise motorists. - Review the TGS and adjust where possible to enhance traffic calming through the work site. 	4	2	14
Transition										
4.0	Lane closure	Motorist fails to negotiate taper and collides with worker, vehicle or plant	5	4	24	Y	<ul style="list-style-type: none"> Always: - Install taper lengths and cones in accordance with TCAWS Manual - Install & duplicate/repeat Lane Status Sign (T2-6-1 or 2) on multi lane roads - Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers - Install a 30m minimum buffer zone at the end of tapers - Check setup before commencing work - Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers - Ensure appropriate site distance to start of taper 	4	2	14
Work Area										
5.0	Traffic Control	Motorist not concentrating or speeding collides with end of queue or traffic controller	5	4	24	Y	<ul style="list-style-type: none"> - Design and implement TGS in accordance with TCAWS, AS1742.3 and AGTTM. - Ensure all relevant traffic management personnel involved in the design and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake. - Conduct regular inspections in accordance with TCAWS, AS1742.3 and AGTTM. - Rectify any deficiencies as a matter of urgency. - Review traffic controls to suit changes in site conditions. 	4	2	14
5.1	Working adjacent to travel lane	Motorist collides with worker, vehicle or plant	4	4	20	Y	<ul style="list-style-type: none"> Always: - Install workman T1-5 sign if workers on road - Space cones in accordance with TCAWS Manual - Check setup before commencing work - Reduce speed based on lateral clearance between the work area and travel lane Consider: - Using a shadow vehicle(s) with flashing lights to protect workers - Using spotters with workers - Using safety barriers 	4	2	14
General										
6.0	Night work	Due to poor visibility motorist collides with end of queue, worker, vehicle or plant	5	4	20	Y	<ul style="list-style-type: none"> - Consider providing portable lighting to ensure traffic controllers are visible and ensure the positions of any temporary lighting are clearly shown on the TGS & always use applicable night PPE. 	4	2	14
6.1	Wind / Rain / Fog / Obstructions	Rain/fog reduces visibility and causes road to be slippery increasing risk of a collision with workers, plant or other traffic Wind blows over signs Vehicle parks in front of sign	5	4	20	Y	<ul style="list-style-type: none"> - Always monitor weather and traffic - Always regularly check setup to ensure signs are visible. If visibility has been obstructed, consider shifting signs, duplication, or repetition. - Consider additional advance warning signage - Liaise with client to reconsider setup or continuation of works 	3	3	12
6.2	Vehicle Movements	Plant collides with motorist, workers, or other plant	4	3	19	Y	<ul style="list-style-type: none"> Always: - Ensure positive communications Consider: - Using Traffic Control and/or Spotters to manage work vehicles - Installation of exclusion Zones - Preparing a VMP where required. 	3	3	12
6.3	Pedestrians and Cyclists	Pedestrian and/or cyclist enters the work zone or travel lane and is hit by vehicle or plant	4	5	21	Y	<ul style="list-style-type: none"> - Ensure TGS design caters for all road users including pedestrians and cyclists. - Always clearly delineate the work area. - Do not obstruct pedestrian and cyclists travel paths with traffic control signs and devices. - Consider the use of additional warning and guidance signage for pedestrians, cyclists and motorists. - Comply with shoulder and lane width criteria in the design of the TGS. - Consider the use of traffic control at crossing points especially where contra-flow arrangements are in place. - Consider the use of additional traffic controllers to monitor and assist pedestrian and cyclist movements where required. - Ensure the use of existing or temporary ramps for crossing points. - Undertake consultation to determine existing travel paths, desire lines, volumes, and types of users. 	4	2	14

Issue	Desg	Appd	Date & Time	Amendment Description		TGS Name & Number:		TGS Designed By: Alec Czarnowski		PWZTMP: TCT1010645	Exp: N/A	Signature: 	Date of Approval:	Page 2 / 10
01	AC	PL	17/10/2023 22:30	Original Issue		LGP - 63822 - GLC 151 - Wentworth to Unwin St - Clyde - CS6 TS4 - Road		TGS Approved By: Peter Lozano		PWZTMP: TCT0058486	Exp: N/A	Signature: 	13/11/2023	
02	AC	PL	07/11/2023 13:15	Amended as per comments		Works Location:		Client Company: Gamuda Australia						
03	AC	PL	07/11/2023 16:30	Amended as per comments		Wentworth to Unwin Street - Clyde		Client Contact: Daniel Kelly		Contact Number: 0437 315 649				
04	AC	PL	13/11/2023 12:06	Amended detour		Project Name:								
05						Sydney Metro Werstern Tunnelling		Project Description:		Construction Stage 6 - Traffic Switch 4				
Scale: 1 : 750			Original Size A3		Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.									








Date of works: _____ Start time of works: _____ End time of works: _____ (24 hour time)

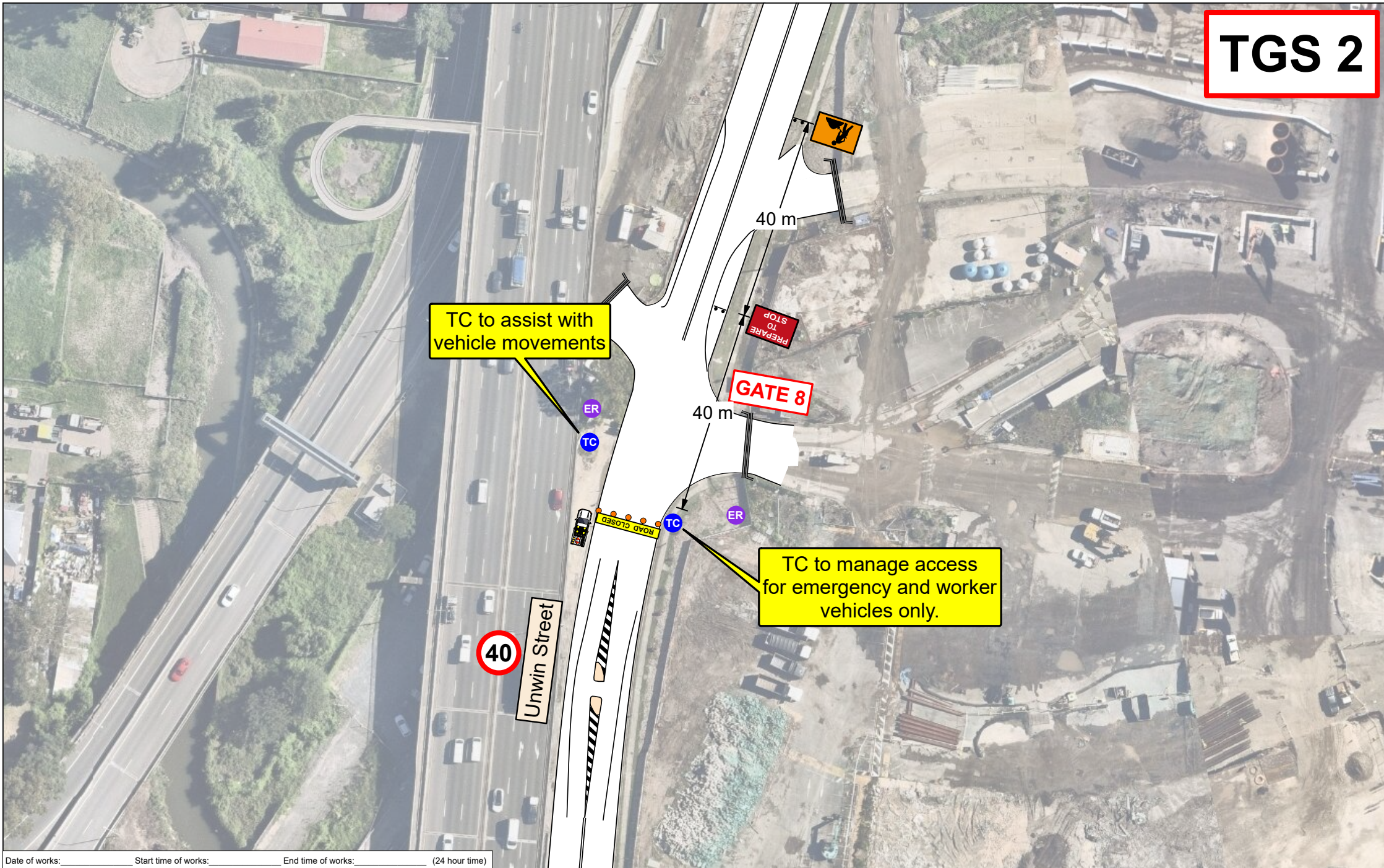
Issue	Desg	Appd	Date & Time	Amendment Description	TGS Name & Number:
01	AC	PL	17/10/2023 22:30	Original Issue	LGP - 63822 - GLC 151 - Wentworth to Unwin St - Clyde - CS6 TS4 - Road
02	AC	PL	07/11/2023 13:15	Amended as per comments	Works Location:
03	AC	PL	07/11/2023 16:30	Amended as per comments	Wentworth to Unwin Street - Clyde
04	AC	PL	13/11/2023 12:06	Amended detour	Project Name:
05					Sydney Metro Werstern Tunnelling
				Project Description:	Construction Stage 6 - Traffic Switch 4

TGS Designed By: Alec Czarnowski	PWZTMP: TCT1010645	Exp: N/A	Signature: AC
TGS Approved By: Peter Lozano	PWZTMP: TCT0058486	Exp: N/A	Signature: [Signature]
Client Company: Gamuda Australia			
Client Contact: Daniel Kelly	Contact Number: 0437 315 649		






Date of Approval: 13/11/2023

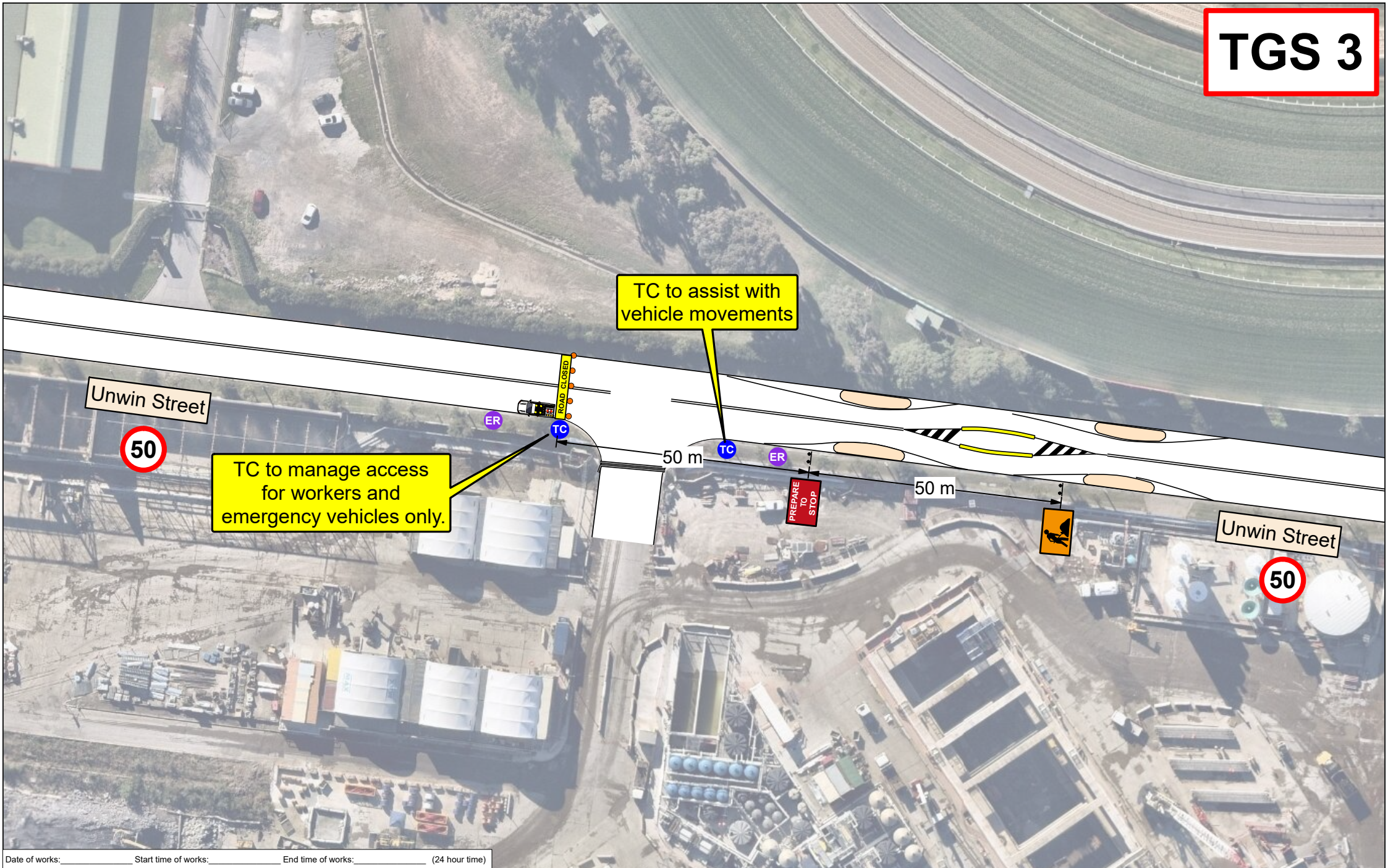
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Date of works: _____ Start time of works: _____ End time of works: _____ (24 hour time)

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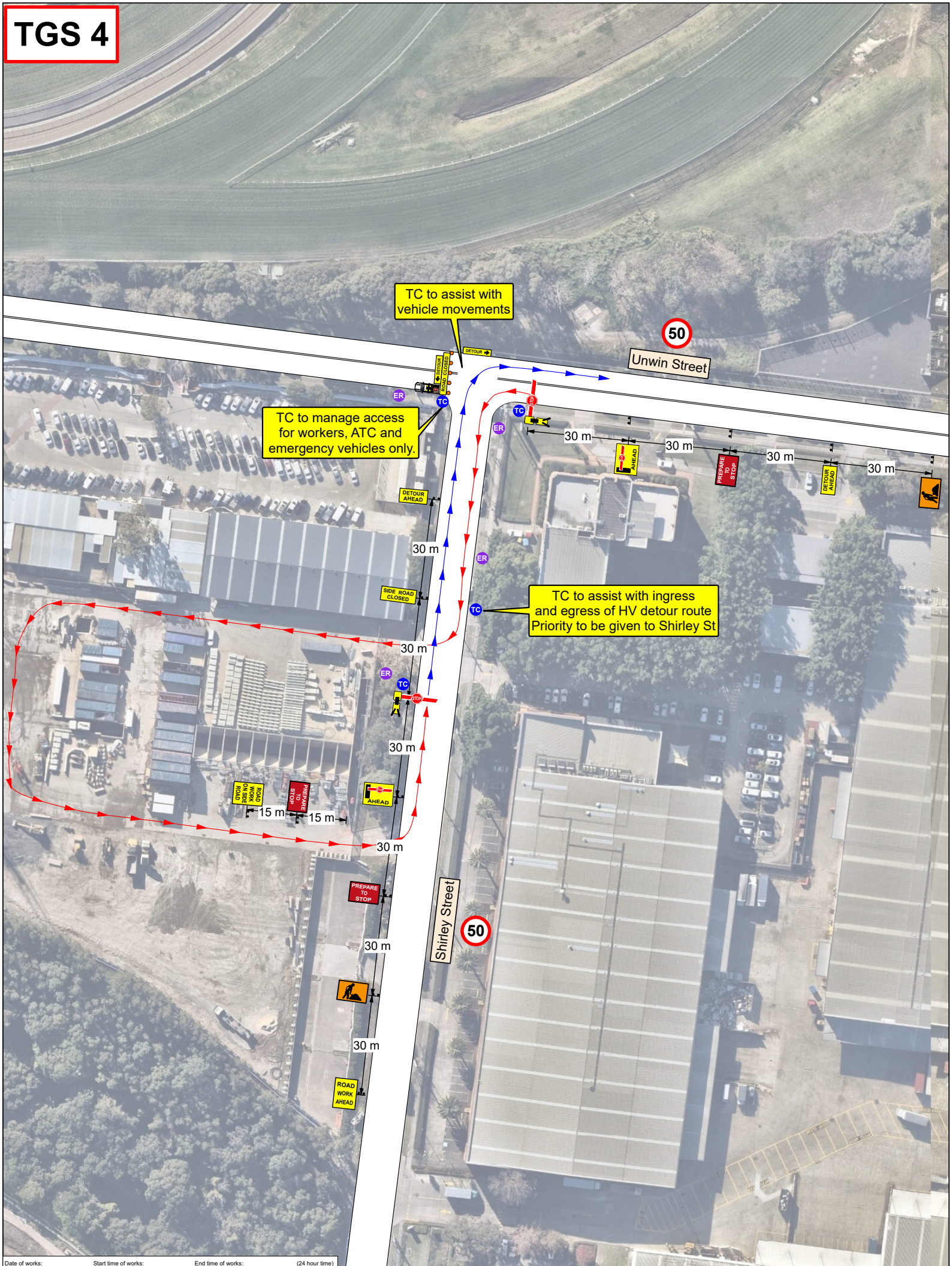


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














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
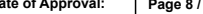
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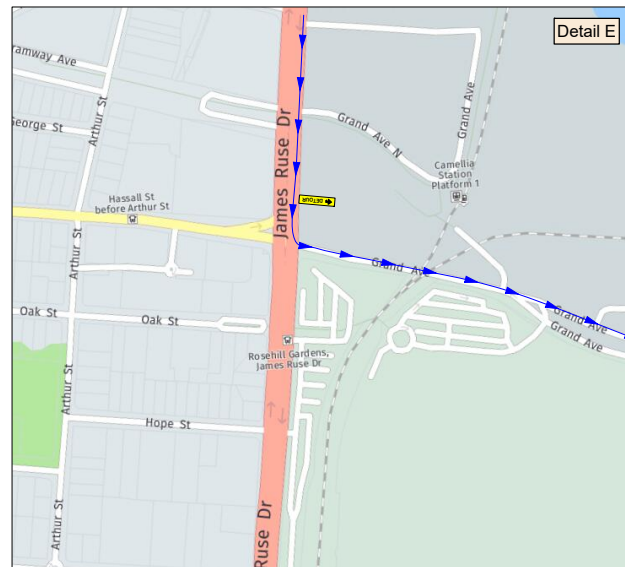
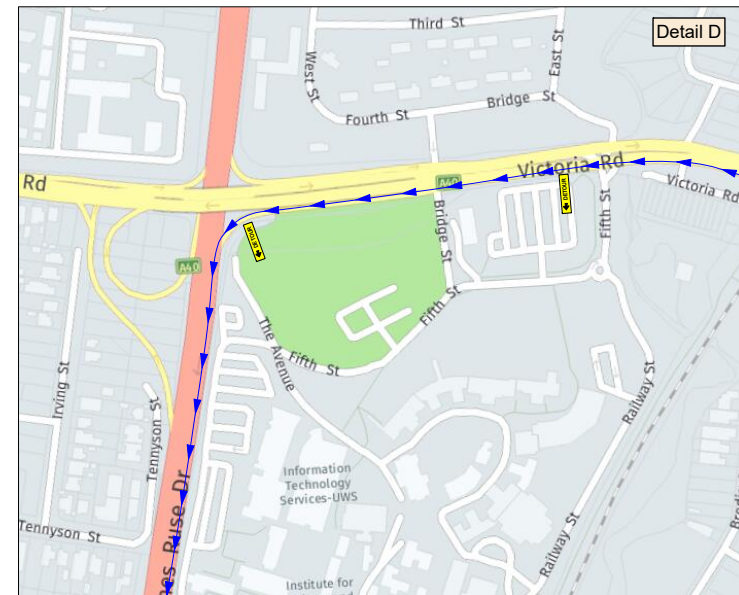
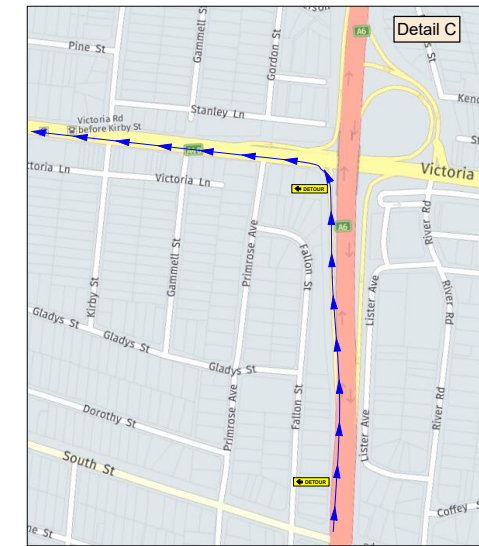
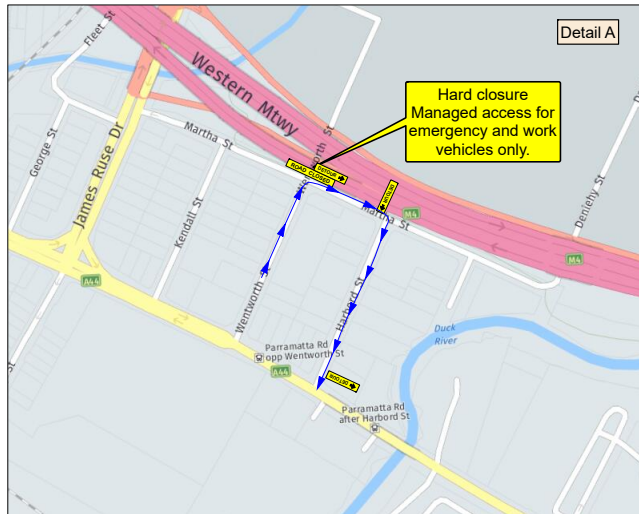
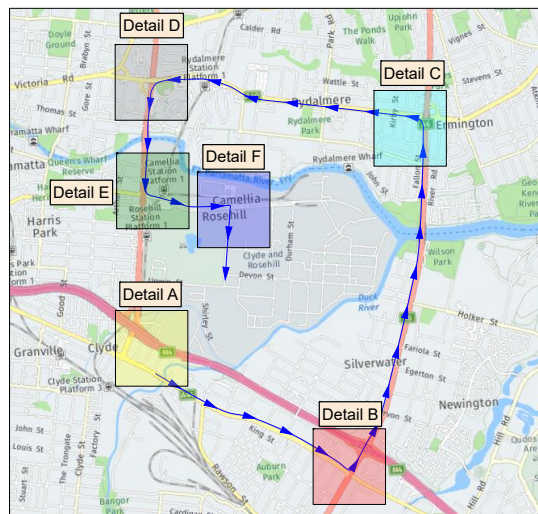
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TC to manage access
for workers, ATC and
emergency vehicles only.

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Wentworth Closure detour Route (From Wentworth To Unwin)



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TGS Risk Assessment

Hierarchy of Controls

1. Eliminate the hazard altogether.
eg. Road closures.
2. Substitute the hazard with a safer alternative.
eg. Using PTCs instead of stop bats.
3. Isolate the hazard from anyone who could be harmed.
eg. Drop zones for clients works in elevated work zones.
4. Use engineering controls to reduce the risk.
eg. The use of traffic control devices to protect work area.
5. Use administrative controls to reduce the risk.
eg. Ensure personnel are trained in their field.
6. Use PPE.
eg. Wearing gloves while manual handling.



Step 1 - Consequence (impact)				
Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Severe (5)
First Aid Treatment	Medical Treatment	Lost Time Injury	Permanent Impairment Injury	Fatality
Very minor injury that requires no treatment or simple first aid	Injury / illness, which requires medical treatment and may temporarily restrict a persons capacity to work	Injury / illness, which temporarily renders a person unfit to work in any capacity	Injury / illness, which permanently alters a persons future (eg. Spinal injury, amputation or death)	
Short term damage	Limited but medium term damage	Significant but recoverable ecological damage	Heavy ecological damage, costly restoration	
Brief delay / slight impact on service delivery	Local or worksite specific impact on service delivery or customer satisfaction	Temporary impact on service delivery or customer satisfaction at a local event / project level	Serious impact on service delivery or customer satisfaction at a state client or large project level	Long term or very severe impact on service delivery or customer satisfaction resulting in loss of business nationally
Moderate (8)	High (16)	High (18)	High (21)	Extreme (25)
Moderate (7)	Moderate (10)	High (17)	High (20)	High (24)
Low (3)	Moderate (9)	Moderate (12)	High (19)	High (23)
Low (2)	Low (5)	Moderate (11)	Moderate (14)	High (22)
Low (1)	Low (4)	Low (6)	Moderate (13)	Moderate (15)
Step 3 - The risk rating is where the consequence and the probability intersect				

Step 2 - Probability	Almost Certain (5)	The threat can be expected to occur 75% - 99%	Common / Frequent Occurrence	More than 1 event per month
	Likely (4)	The threat will quite commonly occur 50% - 75%	Is known to occur or "it has happened regularly"	More than 1 event per year
	Possible (3)	The threat may occur occasionally 25% - 50%	Could occur or "I've heard of it happening"	1 event per 1 to 10 years
	Unlikely (2)	The threat could infrequently occur 10% - 25%	Not likely to occur very often	1 event per 10 to 100 years
	Rare (1)	The threat may occur in exceptional circumstances "The threat may occur occasionally 0% - 10%	Conceivable but only in exceptional circumstances	Less than 1 event per 100 years

Item #	Worksite Component	Potential Hazard	Initial Risk			Present	Control Measures	Residual Risk		
			C	P	R			C	P	R
Acceptance										
1.0	TGS Drawn / implemented by unqualified person or organization	TGS Drawn / implemented by unqualified person or organization	5	3	23	Y	- Design and implement TGS in accordance with TCAWS, AS1742.3 and AGTMM. - Ensure all relevant traffic management personnel involved in the design and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake.	4	1	13
Departures										
2.0	Stop bat used instead of PTC	Traffic controller hit by vehicle	5	4	24	N	- Consider use of shadow vehicles if practical, or other type of static hard cover available (i.e. safety barrier) - Ensure best possible escape route considered when allocating control point on TGS - to be reassessed onsite continuously - Ensure best line of sight where practical. Should the best line of sight not be possible, repeater signs in advance warning to be used. - Traffic controller to always remain clear from travelled path. - Ensure appropriate speed signage has been installed and meets minimum and maximum length requirements.	4	2	14
Advanced Warning										
3.0	VMS	Motorist collides with VMS, motorist confused by VMS	4	4	20	N	- Always place VMS behind an approved safety barrier or as far away from the edge of traffic lane as is practical in a position determined suitable based on a documented risk assessment. - The location is to be confirmed by Risk Assessment	3	2	11
3.1	Long Term Works	Confused motorist collides with worker	4	4	20	Y	- Always install RWA (T1-1) on long-term road work sites - Consider using VMS's	3	3	12
3.2	Delays or Queue extends beyond advanced warning signs	Motorist collides with end of queue	4	4	20	N	Always: - Work in accordance with the approved and appropriate ROL - Use two-way communication with trucks and give them priority whenever possible - Monitor queue lengths - Install additional signs or use additional traffic controllers or stop work and clear traffic if end of queue extends beyond the advance warning signs - Give emergency vehicles & wide loads priority (i.e. stop work & traffic) Consider: - Working outside peak periods - Liaising with TMC for assistance with traffic signal phasing - Using VMS's - Notifying emergency services - Use of flashing beacon to be added to advance warning signage - Use of queue monitors - Ensure TGS has been designed to cater for the predicted queue lengths where required.	4	2	14
3.3	Changed traffic conditions (eg Slippery surface, no lines, changed line marking, banned turning movements, detours)	Motorist loses control, is confused, or attempts a banned manoeuvre causing MVA	4	4	20	Y	Always: - Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or unexpected conditions such as loose stones or the absence of line marking - Erect Condition signs in accordance with TCAWS Manual - Provide delineation or temporary line marking and ensure this is clearly shown on the TGS - Use Traffic Control to manage changed traffic conditions where required. - Check setup before commencing work - Ensure appropriate permission for any detours - Speed reduction installed to suit road conditions - Consider using VMS's	3	2	11

Item #	Worksite Component	Potential Hazard	Initial Risk			Present	Control Measures	Residual Risk		
			C	P	R			C	P	R
3.4	After care	Inadequate signage resulting in motorist losing control and crashing or motorist becomes frustrated due to inappropriate signage	4	4	20	N	Always: - Install RWA (T1-1) if diverting traffic along a sidetrack, detour, or unexpected conditions, such as loose stones or the absence of line marking - Cover any signs that are not applicable - Erect Condition signs in accordance with TCAWS Manual - Provide delineation or temporary line marking - Aftercare speed limit to suit road conditions	3	3	12
3.5	Poor sight distance or speed compliance or Approach speed > 85km/h, or multi lane roads with traffic volume > 10,000vpd	Speeding vehicle doesn't have time to react and fails to negotiate merge taper	5	4	24	Y	Always: - Install RW 1km Ahead if approach speed is > 85km/h or sight distance is less than 150m - Use 900mm cones where traffic speed is greater than 75km/h - Use 500mm cones on high speed to high volume roads (e.g., expressway) or on any work site where increased visibility is required - Duplicate Lane status sign. Consider: - Installing RWA (T1-1) - Increasing taper lengths - Increasing the number of advance warning signage installed - Increasing the size of signage installed - Need for duplication of signs.	4	2	14
3.6	Side Roads	Vehicles enters work site from a side road and collides with workers	3	4	17	Y	- Always install advance warning signage for vehicles entering from side road in advance of the work site.	3	2	11
3.7	Temporary Speed Zone	Motorist travelling too fast for the conditions causing MVA	5	4	24	N	- Ensure speed zones are designed in accordance with TCAWS, AS1742.3 and AGTMM. - Ensure speed zoning is consistent with the work activity and road environment. - Consider the use of speed radar VMS to monitor traffic speeds and advise motorists. - Review the TGS and adjust where possible to enhance traffic calming through the work site.	4	2	14
Transition										
4.0	Lane closure	Motorist fails to negotiate taper and collides with worker, vehicle or plant	5	4	24	N	Always: - Install taper lengths and cones in accordance with TCAWS Manual - Install & duplicate/repeat Lane Status Sign (T2-6-1 or 2) on multi lane roads - Use a minimum of 2 temporary hazard markers (T5-4 or 5) on tapers - Install a 30m minimum buffer zone at the end of tapers - Check setup before commencing work - Consider using a shadow vehicle (or vehicles) with flashing lights to protect workers - Ensure appropriate site distance to start of taper	4	2	14
Work Area										
5.0	Traffic Control	Motorist not concentrating or speeding collides with end of queue or traffic controller	5	4	24	N	- Design and implement TGS in accordance with TCAWS, AS1742.3 and AGTMM. - Ensure all relevant traffic management personnel involved in the design and implementation of the TGS are certified as competent persons to perform the traffic management tasks they are required to undertake. - Conduct regular inspections in accordance with TCAWS, AS1742.3 and AGTMM. - Rectify any deficiencies as a matter of urgency. - Review traffic controls to suit changes in site conditions.	4	2	14
5.1	Working adjacent to travel lane	Motorist collides with worker, vehicle or plant	4	4	20	Y	Always: - Install workman T1-5 sign if workers on road - Space cones in accordance with TCAWS Manual - Check setup before commencing work - Reduce speed based on lateral clearance between the work area and travel lane Consider: - Using a shadow vehicle(s) with flashing lights to protect workers - Using spotters with workers - Using safety barriers	4	2	14
General										
6.0	Night work	Due to poor visibility motorist collides with end of queue, worker, vehicle or plant	5	4	20	Y	- Consider providing portable lighting to ensure traffic controllers are visible and ensure the positions of any temporary lighting are clearly shown on the TGS & always use applicable night PPE.	4	2	14
6.1	Wind / Rain / Fog / Obstructions	Rain/fog reduces visibility and causes road to be slippery increasing risk of a collision with workers, plant or other traffic Wind blows over signs Vehicle parks in front of sign	5	4	20	Y	- Always monitor weather and traffic - Always regularly check setup to ensure signs are visible. If visibility has been obstructed, consider shifting signs, duplication, or repetition. - Consider additional advance warning signage - Liaise with client to reconsider setup or continuation of works	3	3	12
6.2	Vehicle Movements	Plant collides with motorist, workers, or other plant	4	3	19	Y	Always: - Ensure positive communications Consider: - Using Traffic Control and/or Spotters to manage work vehicles - Installation of exclusion Zones - Preparing a VMP where required.	3	3	12
6.3	Pedestrians and Cyclists	Pedestrian and/or cyclist enters the work zone or travel lane and is hit by vehicle or plant	4	5	21	Y	- Ensure TGS design caters for all road users including pedestrians and cyclists. - Always clearly delineate the work area. - Do not obstruct pedestrian and cyclists travel paths with traffic control signs and devices. - Consider the use of additional warning and guidance signage for pedestrians, cyclists and motorists. - Comply with shoulder and lane width criteria in the design of the TGS. - Consider the use of traffic control at crossing points especially where contra-flow arrangements are in place. - Consider the use of additional traffic controllers to monitor and assist pedestrian and cyclist movements where required. - Ensure the use of existing or temporary ramps for crossing points. - Undertake consultation to determine existing travel paths, desire lines, volumes, and types of users.	4	2	14

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01	AC	GA	27/10/2023 14:05	Original Issue	LGP - 66688 - GLC 155 - Unwin to Martha - CS3 - Pedestrian detour	TGS Approved By: Greg Allsopp	PWZTMP: TCT0027348	Exp: N/A	Signature: [Signature]		
02					Works Location:	Client Company: Gamuda Australia			Client:		
03					Unwin St to Martha St and James Ruse Dr	Client Contact: Daniel Kelly	Contact Number: 0437 315 649				
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Item #	Worksite Component	Potential Hazard	Initial Risk			Present	Control Measures	Residual Risk		
			C	P	R			C	P	R
6.4	Bus stops	Bus unable to pull up safely causing MVA	3	3	12	N	<ul style="list-style-type: none"> - Consider notifying bus companies that operate in the area - Always provide adequate provision for buses or carry out work at night when buses aren't operating - Where temporary bus stops are created, ensure buses are able to meet the curb - Ensure TGS clearly shows affected stops - Traffic controllers to manage and assist where safe and possible 	2	2	5
6.5	Property accesses - commercial or private	Collisions due to property access restrictions	3	4	17	Y	<ul style="list-style-type: none"> - Consider staging work outside of business hours - Create physical barrier to prevent traffic entering site & driveways 	2	2	5
6.6	Excavations within work area	Errant vehicle drives into excavation	5	4	25	N	<ul style="list-style-type: none"> - For excavations shallower than 0.5m and within 3m of the edge of traffic lane, delineate the excavation with plastic mesh fencing, barrier boards placed perpendicular to the traffic flow or cones/bollards. - For excavations deeper than 0.5m and within 3m of the edge of traffic lane, a temporary safety barrier must be installed. When traffic is greater than 3m from the excavation, the requirement for a temporary safety barrier should be considered based on a documented risk assessment. - Where the excavation is deeper than 200mm, is open for more than 2 weeks and the distance from the edge of traffic lane is less than 3m for 60km/h, 6m for 80km/h and 9m for 100km/h, a temporary safety barrier must be installed. 	4	2	14
6.7	Parking	Parked vehicle or worker exiting vehicle hit by passing vehicle	4	4	20	Y	<ul style="list-style-type: none"> - Always check adequate parking is available for workers and visitors - Consider providing safe parking within the work area 	4	2	14
6.8	Concurrent Works	Motorist confused by conflicting signs causing MVA	3	4	17	Y	<ul style="list-style-type: none"> - Always establish communication with other site if possible - Always cover any conflicting signs and adjust TGS as necessary - Complete conflict checks where required 	3	3	12
6.9	Heavy Vehicles and OSOM Vehicles	HV cannot travel past work site without knocking over delineation	4	4	20	Y	<ul style="list-style-type: none"> - Comply with shoulder and lane width criteria in the design of the TGS. - During the design of the TGS, check vehicle swept path where necessary to ensure the largest known vehicle travelling through the work site can negotiate the changed traffic conditions. - Traffic controllers to communicate with heavy vehicle and OSOM drivers to warn and guide them through the work site as required. - Traffic control to monitor heavy vehicle movements and if required, make adjustments to the signs and devices within approved tolerances. If more significant changes are required, liaise with Client/Supervisor and arrange for TGS to be reviewed and modified by the designer. 	4	2	14
Dynamic Works										
7.0	General Traffic	Motorists speeding / not concentrating / tired / distracted. Not having enough time to merge causing MVA	5	5	25	N	<ul style="list-style-type: none"> - Always use a minimum 1 AWW and consider the use of a 2nd AWW. - Consider use of TMA on higher speed roads >85km - Use speed reduction best suited to work activity and road environment - Use applicable AW signage displayed on AWW - Ensure sight distances between AWW, shadow vehicles are clearly labelled on TGS - Ensure 20-40m buffer zone between shadow vehicle and work vehicle. No less than 40m when using a TMA as a shadow vehicle - Positive communications to be held at all times - Workers to remain shadowed at all times - Monitor traffic queues on all road configurations, convoy to clear roadway if required until traffic has cleared 	4	2	14

Item

Additional Control Control Measures

8.0

9.0

10.0

11.0

Item

Departures: State the departure and reason for departure

12.0

13.0

14.0

Departures Sign Off (CLIENT):

Client Name:

Client Signature:

Date:

NOTES:

GENERAL NOTES

1. This Traffic Guidance Scheme (TGS) is to be used in conjunction with the Traffic Management Plan (TMP) and associated road authority permits and management plans, including Road Occupancy Licence (ROL), vehicle movement plan (VMP) and pedestrian movement plan (PMP) where applicable.
2. This TGS has been produced by a Prepare Work Zone Traffic Management Plan (PWZTMP) qualified person in accordance with the requirements of the TfNSW Traffic Control at Work Sites manual, Issue 6.1 dated 28 February 2022 (TCAWS 6.1) and with reference to AS1742.3 and AUSTRROADS Guide to Temporary Traffic Management Parts 1 – 10, version 1.1 dated September 2021 (AGTTM).
3. This TGS is suitable for **short-term**/long term works.
4. Lack Group does not accept responsibility for this TGS if it is implemented or modified by external parties.

APPROVALS

5. The TGS must be approved for use before implementation.
6. Ensure all road authority approvals and associated conditions of approval are met prior to implementing the TGS.

TGS VERIFICATION

7. Prior to use on site, the selected or designed TGS must be verified to ensure it is suitable for the works and location by undertaking an inspection of the work site where the TGS will be implemented. The TGS verification must be completed in accordance with TCAWS 6.1, Section 8.1.2 by an Implement Traffic Control Plan (ITCP) or PWZTMP qualified person. Refer Page 1 of this TGS for Site Verification sign-off.

RISK ASSESSMENT

8. A desktop risk assessment has been undertaken in developing this TGS. However, when implementing this TGS on site, the site supervisor should undertake a site specific risk assessment to ensure that the TGS has considered and mitigated all identified hazards and risks.

INSTALLATION AND REMOVAL OF SIGNS AND DEVICES

9. All traffic management signs and devices prescribed for use in this TGS are in accordance with TCAWS 6.1 with reference to AS1742.3 and AGTTM.
10. The TGS must be installed, maintained and removed in a planned and safe manner. The implementation must only be undertaken by an ITCP qualified person.
11. All signage shown on this TGS is not to conflict with any long-term existing signage arrangements in the area. If this occurs, cover all conflicting road signage where required.

PLACEMENT OF SIGNS AND DEVICES

12. Signs must be properly displayed and securely mounted at all times and within the line of sight of the intended road user. Regulatory and detour signs must be located nearest to the travel edge of the lane. Signs must not: Be obscured from view, such as by vegetation; or parked cars; Obscure other devices from the line of sight of the intended road users; Create a hazard to road workers and road users, including pedestrians and cyclists; Be a hazard that deflects traffic into an undesirable path; Restrict sight distance for drivers entering from side roads or streets, or private driveways; and Be installed using supports that could be a hazard if struck by a vehicle.
13. Signs mounted on frames for short-term works should be mounted a minimum 200mm from the ground to the lower edge of the sign.
14. Signs mounted on posts for long-term works in open road situations, the underside of the sign must be at least 1.5m above the level of the nearest edge of the travelled path. When installed on a kerb or footpath, the underside of the sign must be at least 2.2m above the level of the nearest edge of the travelled path.

ORIENTATION OF SIGNS

15. On the outside of a curve, the sign face must be at 0 degrees, or 'normal to traffic'. On a straight, the sign face must be angled at approximately 5 degrees normal to oncoming traffic and on the inside of a curve, the sign ace must be angled at approximately 5 degrees normal to oncoming traffic at 200m preceding the sign.

TOLERANCES

16. Local constraints may not allow signage and devices to be placed in accordance with this TGS. Unless stated otherwise on the TGS, the tolerances on the positioning of signs, length of tapers or pavement markings detailed in the TGS is a minimum 10% less and a maximum 25% more than the distances or lengths stated and for the spacing of delineation devices a maximum 10% more than the spacing detailed in the TGS.
17. Any variation to the positioning of signs and devices within the approved tolerances must be marked and initialed on the TGS held on site, with the name of the person making the changes shown on the TGS.

MODIFYING TGS

18. Modifications to a Site Specific or Site Suitable TGS must be approved by a person holding the PWZTMP qualification and must be supported by a TMP or risk assessment to ensure that the TGS has considered and mitigated all identified site specific conditions and risks.
19. If it is identified that by implementing the TGS with modifications outside of the approved tolerances it will generate risks, then the works must be stopped (including the implementation of the TGS), the site must be made safe and an updated TGS must be provided by a PWZTMP qualified person prior to works recommencing. Any concerns regarding the suitability of the TGS must be raised with the Site Manager and your immediate Supervisor.

TRAFFIC CONTROLLERS

20. The implementation of traffic control must be conducted in line with the hierarchy of controls with the elimination of harm to workers and the travelling public considered in the first instance.
21. Where traffic control is required, a portable traffic control device (PTCD) must be used rather than using a manual traffic controller when the existing permanent speed limit is greater than 45 km/h.
22. TCAWS 6.1, Section 5.4 provides the conditions under which a manual traffic controller may be used.
23. Where PTCDs or traffic controllers are used, approach speeds of traffic must be reduced to less than 65 km/h.
24. All persons operating a portable traffic control device or performing manual traffic control must be qualified with 'Traffic Control' training; and authorised by the relevant road authority.

ROAD USER MANAGEMENT

25. The needs of specific road users, including travel paths and desire lines, must be considered and managed for the extent of the works to ensure safety and access is maintained. Specific road user groups to be considered include: Pedestrians including high-risk pedestrians such as persons with a disability, children, the elderly or persons using mobility aid devices; Cyclists; Motorcyclists; Heavy Vehicles, including oversize overmass vehicles; Public transport; and Emergency services. The needs of these specific road users have been considered in the design of this TGS, however the needs of all road users should be considered in the site specific risk assessment before implementing the TGS to ensure the TGS is appropriate.
26. Road users are to be monitored for the duration of the works. If additional signage and/or devices are required to manage the needs of specific road users, such as pedestrians and cyclists, this would be subject to following the procedure for modifying a TGS.

ACCESS MANAGEMENT

27. Access to properties located within the extent of works must be maintained at all times.
28. Property access impacted by the works should be identified and addressed in the TGS. Consultation with the property owner/resident must be undertaken prior to implementing the TGS if required.

INCIDENT MANAGEMENT

29. The site contractor is to determine the appropriate procedure for incident management where appropriate.
30. If an incident occurs within the extent of the traffic control arrangement: Call for assistance if incident requires (emergency services 000 or 112); Notify the work site supervisor or Team Leader immediately of any incident; Maintain effective traffic control, if necessary, relocate the traffic control station to a suitable location clear of any further danger; and Record sufficient notes of the incident, including observations, to complete an incident report.

INSPECTIONS



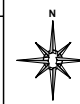


31. Temporary traffic management monitoring activities must be undertaken in all instances where work is being performed or aftercare is in place. This includes day and night times as required. The type of inspections and frequency are to be in accordance with TCAWS 6.1, Section 8.1.1.

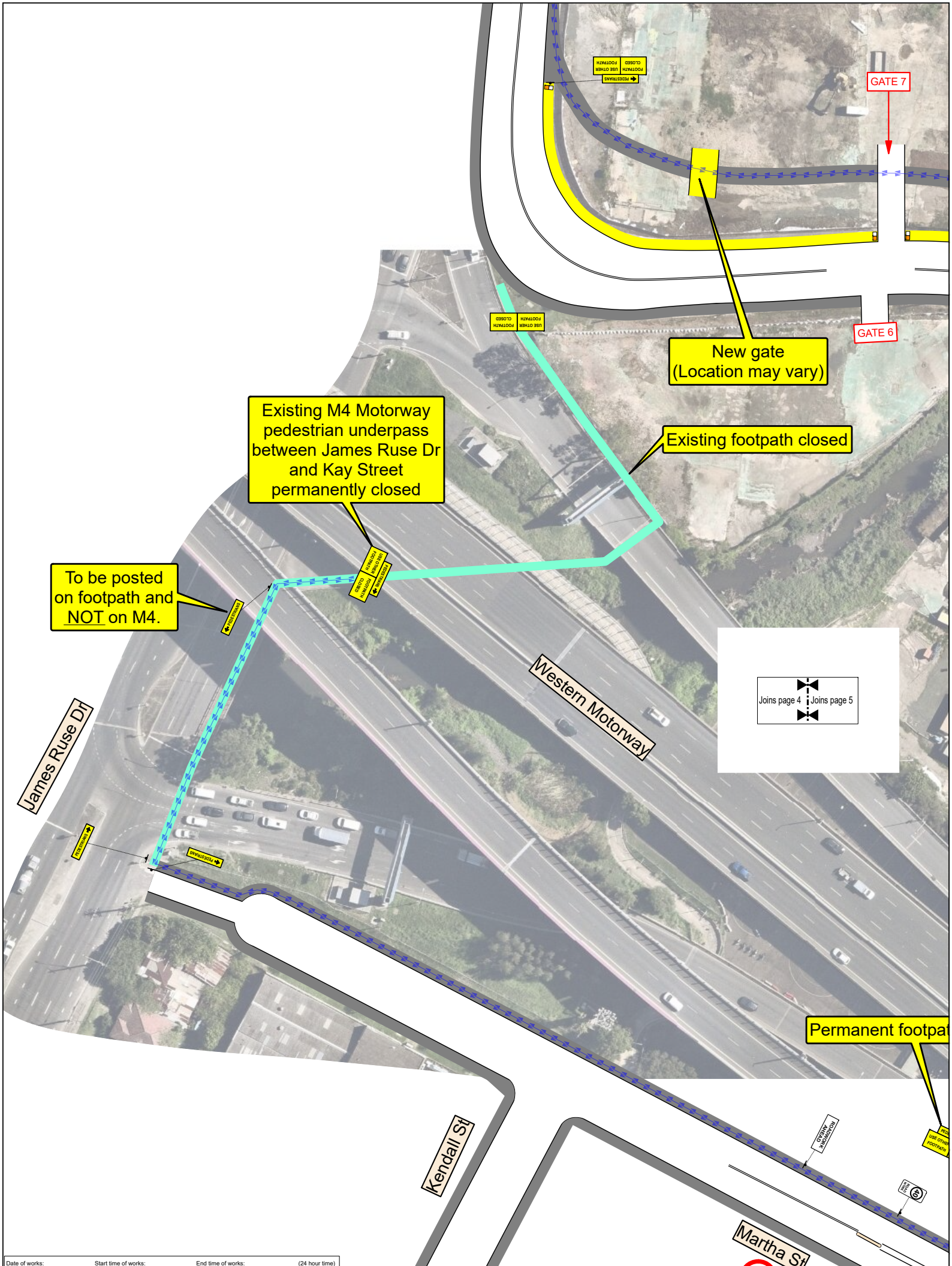
REVIEW OF TGS

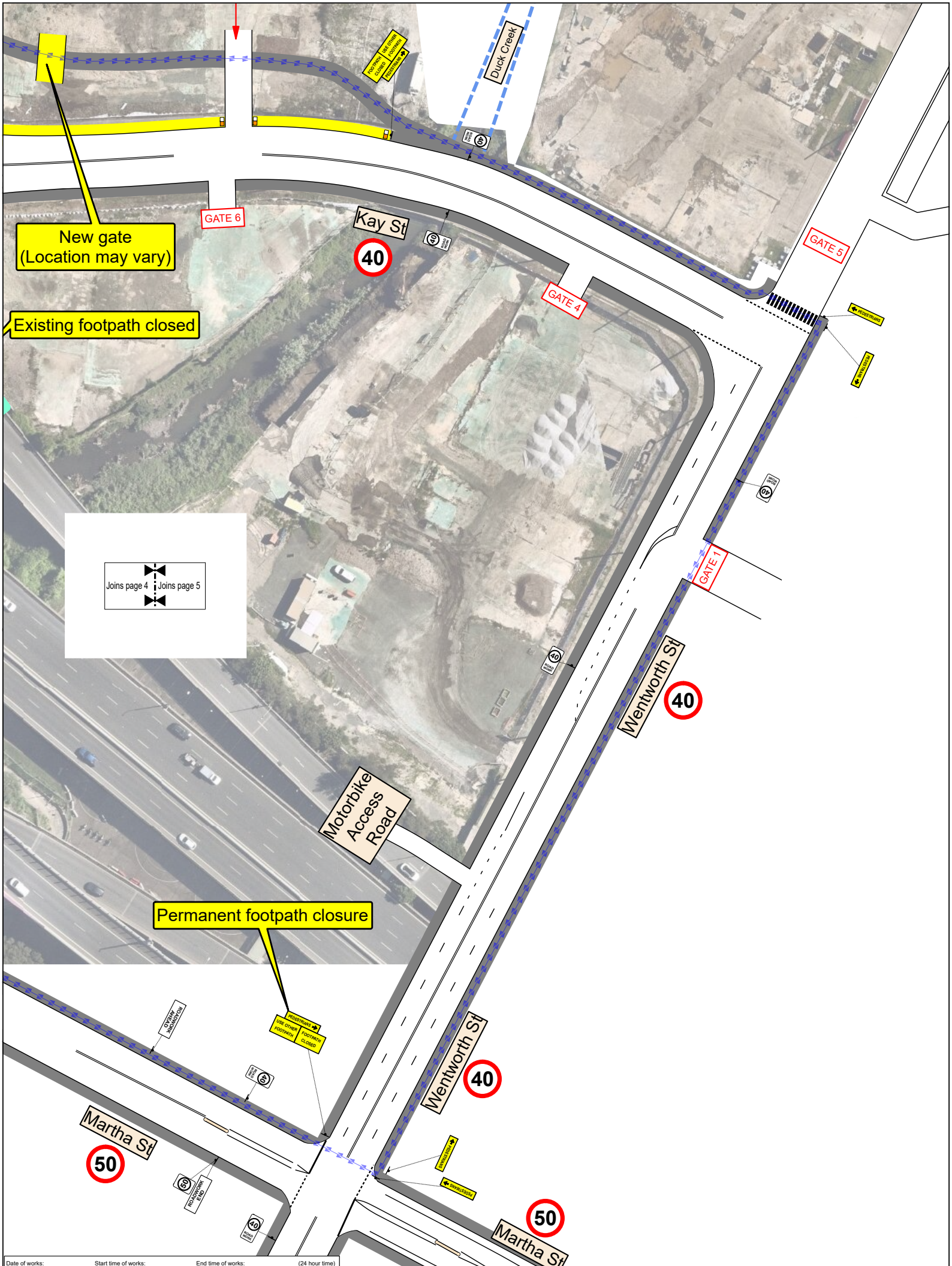
32. Generic TGSs must be reviewed by a PWZTMP qualified person every 12 months so that they remain appropriate. Once reviewed the date and details of the PWZTMP person must be updated on the TGS to ensure persons selecting can confirm currency.
33. All active site specific and site suitable TGS are designed for the nominated work activity and are only valid for the time period of works specified on the TGS. They must be reviewed as part of the weekly inspections as detailed in TCAWS 6.1, Section 8.1. If the work activity is intended to be longer than 12 months, then the TGS must be formally reviewed by a PWZTMP qualified person at least every 12 months and issued with the review date and the details of the person undertaking the review.

RECORD KEEPING

34. Supervisory personnel are to keep daily records of the TGS implementation including: Site specific risk assessments; Approved TGS used, including versions where modifications or updates have been made; Completed inspection checklists that have been undertaken; Records of traffic related incidents that occurred during the works; and Any other relevant document generated by the process of completing the temporary traffic management works.

Issue	Desg	Appd	Date & Time	Amendment Description	TGS Name & Number:			TGS Designed By: Alec Czarnowski	PWZTMP: TCT1010645	Exp: N/A	Signature: 	Date of Approval:	Page 3 / 5			
01	AC	GA	27/10/2023 14:05	Original Issue	LGP - 66688 - GLC 155 - Unwin to Martha - CS3 - Pedestrian detour			TGS Approved By: Greg Allsopp			PWZTMP: TCT0027348	Exp: N/A	Signature: 	27/10/2023		
02					Works Location:			Client Company: Gamuda Australia			Client:					
03					Unwin St to Martha St and James Ruse Dr			Client Contact: Daniel Kelly			Contact Number: 0437 315 649					
04					Project Name:			Project Description:								
05					Sydney Metro Werstern Tunnelling			Construction Stage 3 - Pedestrian Detour								
Scale: 1 : 750				Original Size A3		Lack Group acknowledges the traditional owners of country throughout Australia and recognises their continuing connection to land, waters and community. We pay our respect to them and their cultures; and to elders both past and present.										





Joins page 4 Joins page 5

5 Appendix B – Desktop RSA

Desktop Road Safety Audit

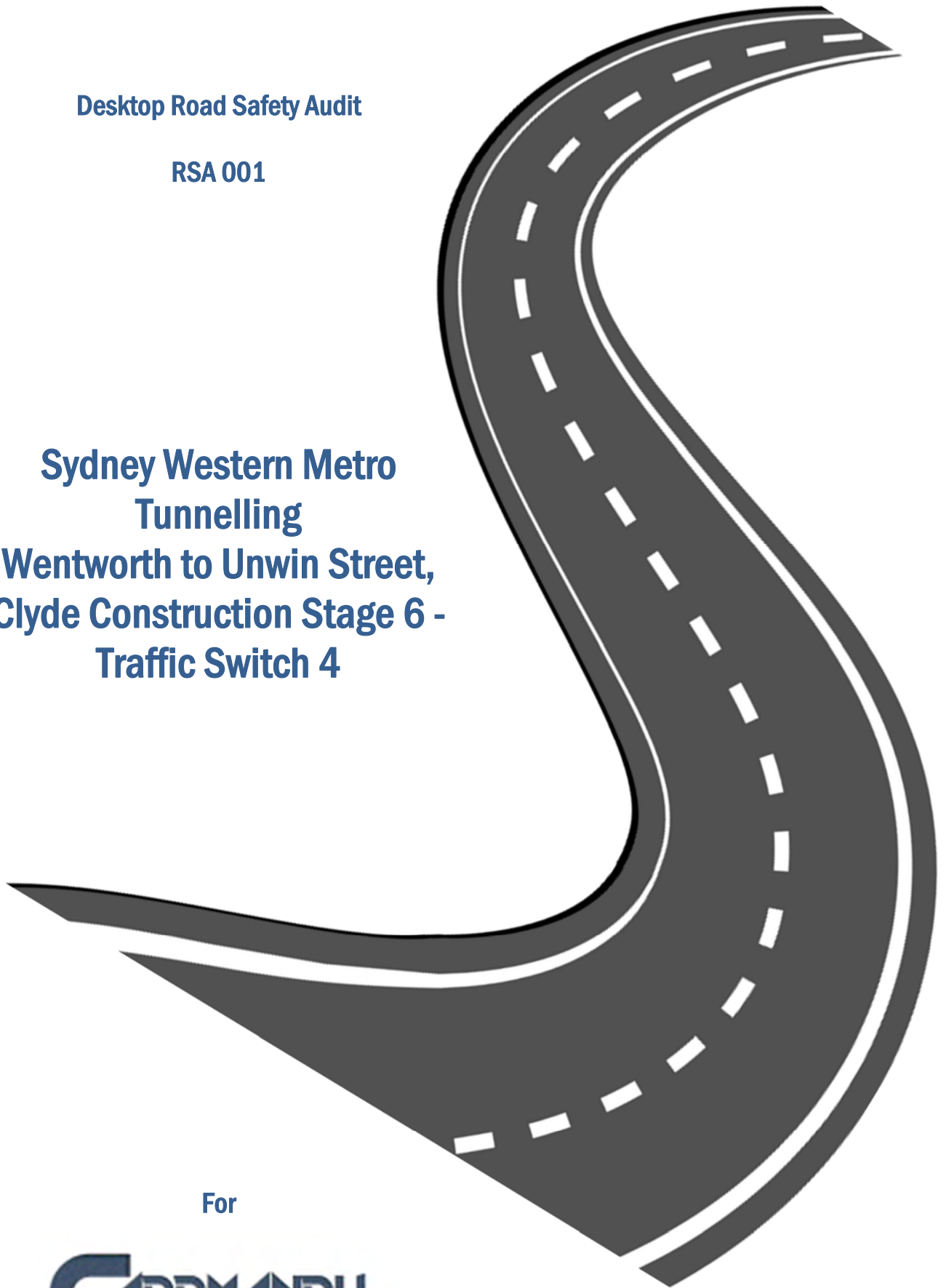
RSA 001

**Sydney Western Metro
Tunnelling
Wentworth to Unwin Street,
Clyde Construction Stage 6 -
Traffic Switch 4**





For



October 2023



Document Information Sheet

Edition Revision No. /	1	2	
Document Status	DRAFT (Internal Review)	Final	
Prepared By	Craig Nethery Director 	Craig Nethery Director 	
Reviewed By	Andy Davis Director 	Andy Davis Director 	
Date	23 Oct 2023	24 oct 2023	
Issued To		Jason Cox, Director / Project Manager, Caddmandu Design & Drafting	

Disclaimer

This report contains findings and recommendations based on examination of the site and / or relevant documentation. The report is based on the conditions viewed on the day of inspection and is relevant at the time of production of the report. Information and data contained within this report is prepared with due care by the Road Safety Audit Team. While the Road Safety Audit Team seeks to ensure accuracy of the data, it cannot guarantee its accuracy.

Readers should not solely rely on the contents of this report or draw inferences to other sites. Users must seek appropriate expert advice in relation to their own particular circumstances.

The Road Safety Audit Team does not warrant, guarantee or represent that this report is free from errors or omissions or that the information is exhaustive. Information contained within may become inaccurate without notice and may be wholly or partly incomplete or incorrect. Before relying on the information in this report, users should carefully evaluate the accuracy, completeness and relevance of the data for their purposes.

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StreetWise Road Safety & traffic Services Pty Ltd
PO BOX 1395
Port Macquarie
NSW 2444

Mob:- 0412 009 558 (Craig Nethery)
Email:- craig@streetwisersa.com.au

Mob:- 0422 011 353 (Andy Davis)
Email:- andy@streetwisersa.com.au

www.streetwisersa.com.au



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1. INTRODUCTION

1.1 Scope of Audit

StreetWise Road Safety and Traffic Services has been engaged by the Caddmandu Design & Drafting to complete a Desktop Road Safety Audit of Traffic Guidance Schemes (formerly Traffic Control Plans) for Sydney Metro (light rail) construction works at Unwin Street, Clyde NSW.

This Road Safety Audit will be conducted in accordance with the Austroads Guide to Safety Part 6: Road Safety Audit (2022).

1.2 Scope Project Description

Sydney Metro is Australia's biggest public transport project, and by 2030, Sydney will have a network of four metro lines, 46 stations and 113km of new metro rail. Sydney Metro will connect Sydney's north west, west, south west and greater west to fast, reliable light rail services with fully accessible stations.

The metro program includes the operational Metro North West Line and three projects under construction:

- City & Southwest
- West
- Western Sydney Airport

There will be ultimate capacity for a metro train every two minutes in each direction under the city. Sydney's new metro railway will have a target capacity of about 40,000 customers per hour, similar to other metro systems worldwide. Sydney's current suburban system can reliably carry 24,000 people an hour per line.

Sydney Metro, together with signalling and infrastructure upgrades across the existing Sydney rail network, will increase the capacity of train services entering the Sydney CBD – from about 120 an hour today to up to 200 services beyond 2024.

The Western 24-kilometre metro line will double rail capacity between Greater Parramatta and the Sydney CBD, linking new communities to rail services and supporting employment growth and housing supply. Stations are confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD. Construction started in 2020, with the project on track to be completed by 2030.

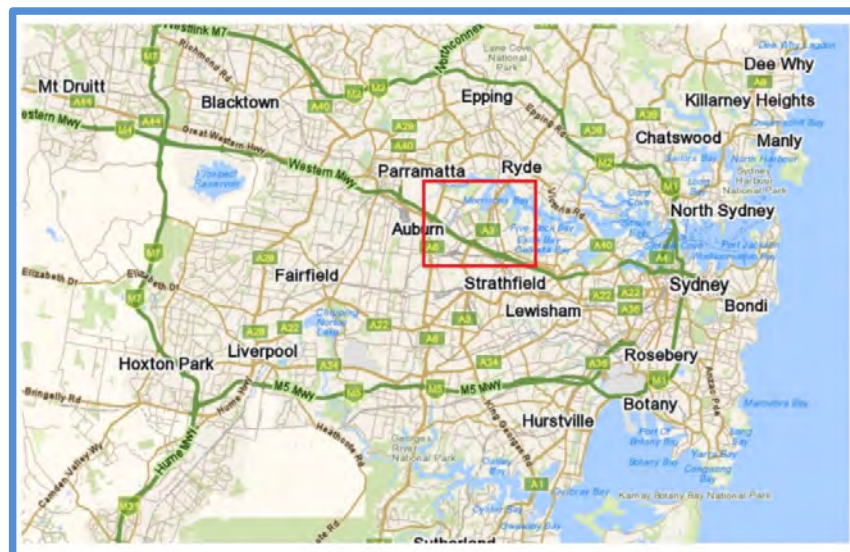


Figure 1: Locality Plan

Sydney Metro West (SMW) is being delivered in a number of packages. The Western Tunnelling Package (WTP) is an enabling one package for SMW. It involves 9km of twin railway tunnels between Sydney Olympic Park and Westmead. This RSA relates preliminary works as part of the ultimate construction of:

- Clyde Maintenance and Stabling Facility (MSF), including permanent dive structure, portal, spur running tunnels, spur tunnel junction cavern, bulk earthworks, civil structures, utilities corridor, road crossing and creek diversion



Figure 1: Site Plan

Background information on the project is contained within Section 4 of this report.

The audit was undertaken by a team lead by Andy Davis of StreetWise Road Safety & Traffic Services in compliance with the audit brief. (See Section 1.3 for Audit Team details)

StreetWise were provided Traffic Guidance Scheme plans detailing traffic management plans for a number of streets impacted by the Clyde Road works.

1.3 Reference Material

The design standards/manuals used to assess the proposal are as follows:

- Austroads 'Guide to Road Safety Part 6: Road Safety Audit (Jan 2022)'
- Austroads 'Guide to Temporary Traffic Management: Parts 1 to 10';
- Austroads 'Guide to Road Design';
- TfNSW Guidelines for Road Safety Audit Practices
- TfNSW Supplements to Austroads Guides
- TfNSW Traffic Control at Work Sites Manual
- Australian Standards

1.4 Audit Team

Auditor No. / Accreditation	Name	Role	Organisation
RSA-02-0230 Level 3 Auditor	Craig Nethery	Audit Team Member	StreetWise Road Safety & Traffic Services
RSA-02-0678 Level 3 Auditor	Andy Davis	Audit Team Leader	StreetWise Road Safety & Traffic Services

Table 1: List Of Audit Team Members

1.5 Stakeholders

The following people / organisations are listed as stakeholders in the completion of this Detailed Design Desktop Road Safety Audit.

Name	Role / Status	Job Title & Organisation
Jason Cox	Project Manager	Director Caddmandu Design & Drafting (Client)

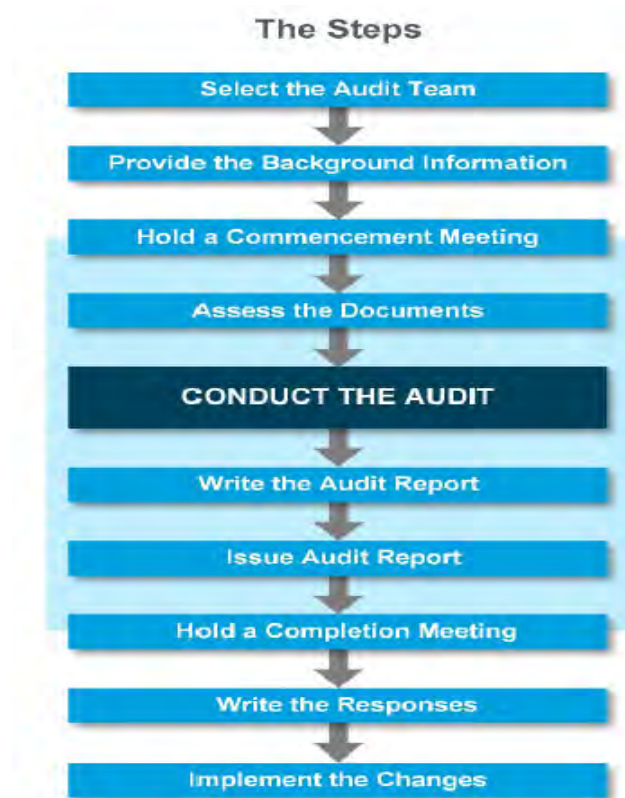
Table 2: List Of Stakeholders

1.6 Site Inspection

This is a desktop road safety audit. There was no requirement as part of the scope of the audit for a site inspection to be completed.

2. ROAD SAFETY AUDIT PROCESS

The following flow chart is reproduced from Austroads *Guide to Road Safety – Part 6: Road Safety Audits*, Figure 8.1



A more detailed illustration of the process appears in Section 8.4.

Figure 2: Steps In A Road Safety Audit

3. SAFE SYSTEM AND RSA

The Safe System Assessment follows the principles outlined in Austroads *Guide to Road Safety Part 6: Road Safety Audit (2022)*.

The aim of Safe System assessment is to identify any safety risks and hazards, including those not identified or addressed in any earlier, feasibility (strategic/concept) or preliminary design stage audit/s undertaken, and to ensure that the design considers all foreseeable road users.

The additional annotation **“IMPORTANT”** shall be used to provide emphasis to any road safety audit finding that has the potential to result in fatal or serious injury or findings that are likely to result in the following crash types above the related speed environment.

- Head- on (>70km/h)
- Right angle (>50km/h)
- Run off road impact object (>40km/h)
- Crashes involving vulnerable road users (>30km/h)

These crash types are known to result in higher severity outcomes at relatively lower speed environments. The exposure and likelihood of crash occurrence shall then be considered for all findings deemed **“IMPORTANT”** and evaluated based on an auditor's professional judgement. Auditors should consider factors such as:-

- traffic volumes and movements
- speed environment
- crash history
- road environment

and apply road safety engineering and crash investigation experience to determine the likelihood of crash occurrence. The likelihood of crash occurrence shall be considered either:-

- VERY HIGH
- HIGH
- MODERATE
- LOW

This additional annotation shall be displayed following the **“IMPORTANT”** on applicable findings provided in Table 5 – Audit Findings.

3.1 Safe System Matrix Analysis

A safe system matrix analysis has been applied to this infrastructure to assess its conformance to the safe system principles as provided in Austroads Guide to Road Safety Part 6: Managing Road Safety Audits.

Project Safe System Matrix Analysis	
Project	Construction of the Sydney Metro West (SMW) and future Clyde Maintenance Facility.
Project Objective	Safely manage road users (vehicles, cyclists and pedestrians) on local roads around the project site.
Road Function	<p><u>Unwin Street</u> Unwin Street is a local road under the care and control of the City of Parramatta Council. Unwin Street runs in a north south direction with an existing speed limit of 50km/hr. No public transport operates along Unwin Street. The precinct previously contained industrial premises which have been demolished by the Sydney Metro works.</p> <p><u>Martha Street</u> Martha Street is a local road under the care and control of the City of Parramatta Council. It starts at James Ruse Drive and</p>

	<p>ends at Deniehy Street. Martha Street runs east to west and has a speed limit of 50km/hr.</p> <p><u>Shirley Street</u> Shirley Street is a local road under the care and control of the City of Parramatta Council. It starts at Unwin Street and ceases at Duck River. Shirley Street generally runs in a north south direction. The speed limit is 50km/hr.</p> <p><u>Kay Street</u> Existing local road under the care and control of the City of Parramatta Council.</p> <p><u>Wentworth Street</u> Existing local road under the care and control of the City of Parramatta Council.</p>
Speed Environment	<p><u>Unwin Street</u> 50km/hr.</p> <p><u>Martha Street</u> 50km/hr.</p> <p><u>Shirley Street</u> 50km/hr.</p> <p><u>Kay Street</u> 50km/hr.</p> <p><u>Wentworth Street</u> 50km/hr.</p>
Road Users / Facilities / Vehicle Composition	<p><u>Unwin Street</u> Existing low speed environment that generally caters for low volumes of local traffic.</p> <p><u>Martha Street</u> Existing low speed environment that generally caters for low volumes of local traffic.</p> <p><u>Shirley Street</u> As above</p> <p><u>Kay Street</u> As above</p> <p><u>Wentworth Street</u> As above</p>

Table 3: Safe System Matrix Summary

3.2 Road Safety Criteria

The list of road safety issues contained in Table 5 – Audit Findings, of the report contains rankings of safety issues which are based on Criteria set out in the Austroads *Guide to Road Safety Part 6: Road Safety Audit, (Feb 2022)*. The assessment of risk uses these principles. The tables from Austroads are reproduced below:

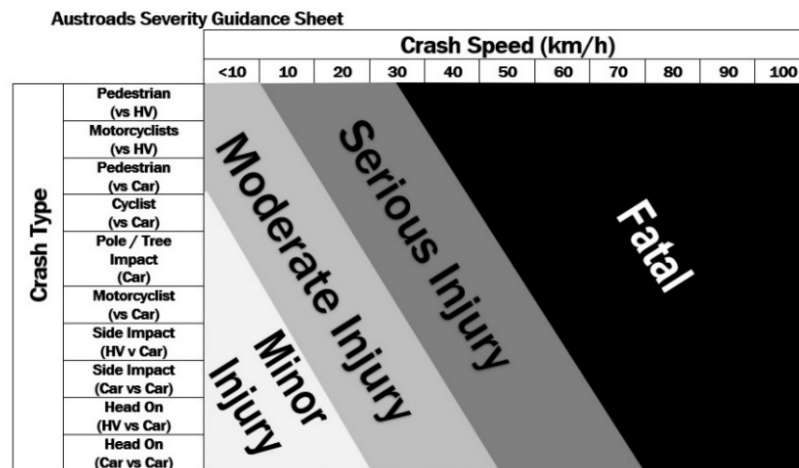
Austrroads RSA Risk Matrix

			Severity*				
			Insignificant	Minor	Moderate	Serious	Fatal
			Property Damage	Minor First Aid	Major First Aid and/or presents to Hospital	Admitted to Hospital	Death within 30 days of crash
Likelihood (includes exposure)	Almost Certain	One per Quarter	Medium	High	High	Extreme (FSI)	Extreme (FSI)
	Likely	Quarter to 1 Year	Medium	Medium	High	Extreme (FSI)	Extreme (FSI)
	Possible	1 to 3 Years	Low	Medium	High	High (FSI)	Extreme (FSI)
	Unlikely	3 to 7 Years	Negligible	Low	Medium	High (FSI)	Extreme (FSI)
	Rare	7 Years Plus	Negligible	Negligible	Low	Medium	High (FSI)

*See Severity Guidance Sheet

Safe System crash outcome threshold

Austrroads Severity Guidance Sheet



Note
It is stressed that the information contained within the severity guidance sheet is a general indication only and that professional engineering judgement is required with its usage.

Note
It is stressed that the information contained within the severity guidance sheet is a general indication only and that professional engineering judgement is required with its usage.

Austrroads Priorities for Mitigation

Risk	Suggested Action
Negligible	No action required.
Low	Should be corrected or the risk reduced, if the treatment cost is low.
Medium	Should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high.
High	Should be corrected or the risk significantly reduced, even if the treatment cost is high.
Extreme	Must be corrected regardless of cost.

3.3 Previous Audits

Streetwise Road Safety and Traffic Services has recently completed a desktop road safety audit the for the temporary design package for this component of the works.

3.4 Identified Road Safety Issues

A summary of the audit findings are provided in Table 5 of this report.

Every effort has been made to identify potential safety hazards in this audit, no guarantee can be made that every issue has been identified. This will be the case with any road safety audit.

3.5 Responding to the Audit Report

As set out in the road safety audit guidelines, the responsibility for planning, road design and construction of the project always remains with the client and the implementation team, and not with the auditor/s. It is **not** the role of the auditor to redesign or take over construction implementation of projects but to provide independent advice via audit findings and / or recommendations where requested by the client.

The client / implementation team are under no obligation to accept all the audit findings and or recommendations. Also, it is not the role of the auditor to agree to or approve of the client / implementation team's response to the audit. Rather, the audit provides the opportunity to highlight potential problems and have them formally considered by the client / implementation team, in conjunction with all other project considerations.

This formal road safety audit report should be responded to in writing following a completion meeting where the findings are explained to the client / implementation team. This response should indicate acceptance or rejection of the suggested remedial measures. Reasons are usually provided where a road safety deficiency or suggested remedial measure is rejected.

4. BACKGROUND DATA

The following data information was used as part of the assessment process in this audit:

- Design Plans,
- Traffic Data.

4.1 Design Plans & Documentation

A summary of the plan information and documentation used in this assessment is provided below:

Document No.	Rev	Title	Issue	Date
LGP 63789 GLC 150 Sheets 1 - 4		Unwin St x Kay St Clyde CS2 w Barriers		17.10.23
LGP 63715 GLC 149 Sheets 1 - 4		Unwin St Clyde Gate Control		17.10.23
LGP-63689-GLC 147 Sheets 1 - 4		Unwin St Footpath closure		17.10.23
LGP 61681 GLC 143 Sheets 1 - 4		Kay St Clyde footpath closure		06.10.23
LGP 60632 GLC 136 Sheets 1 - 6		Kay St Clyde CS3x4x5 TS3		29.09.23

LGP 60589 GLC 135 Sheets 1 - 4		Unwin St Rosehill CS3 Pedestrian refuge		29.09.23
LGP 59866 GLC 133 Sheets 1 - 5		Kay St Clyde CS1 TS1		26.09.23
LGP 63699 GLC 148 Sheets 1 - 4		Unwin St Clyde Stop Slow		17.10.23
Sheets 1 - 9		Review Purposes Only		17.10.23

4.2 Traffic Data

A draft Traffic Management Plan prepared by GAMUDA / Laing O'Rourke for these works provides the following daily traffic volumes:

Unwin Street	5,000
Kay Street	4,200
Wentworth St	4,100

1. TABLE 5 – AUDIT FINDINGS					
Audit Results	Audit Finding (Risk / Hazard, extent, crash type)	Risk Level	Recommendation/s	Client Response	
Audit Finding Ref.				Accept (Yes / No)	Action / comments
LGP 63789 GLC 150 Unwin St x Kay St Clyde CS2 w Barriers					
Sheet 4	<p>A. Has consideration been given to ALL road users i.e. safe access for pedestrians and cyclists?</p> <p>B. What measures will there be in place to keep pedestrians to the alternate path route?</p> <p>C. Roadworks speed zone signage needs to be placed on each side of formation on approach in accordance with the TCAWS Manual.</p>	Comment Only			<p>A. Pedestrians through ahead is expected to be at a low – None, only pedestrians would be from Rosehill Gardens Racecourse or Workers at GLC, and Cyclists will adhere to the long term TTM arrangements like other road users.</p> <p>B. TGS was drawn on top of the Design Drawing, which has caused confusion, and the RSA has looked at this as part of the TGS.</p> <p>C. Long Term 40 Km/h Speed zone reduction will be in place through the work area.</p>
LGP 63715 GLC 149 Unwin St Clyde Gate Control					
Sheet 4	<p>A. What signage will there be in place to warning approaching traffic of construction vehicles entering.</p>	Comment Only			<p>A. Truck turning Signage will be in placed prior to use of gate.</p>

1. TABLE 5 – AUDIT FINDINGS

Audit Results	Audit Finding (Risk / Hazard, extent, crash type)	Risk Level	Recommendation/s	Client Response	
Audit Finding Ref.				Accept (Yes / No)	Action / comments
	<p>B. Will construction traffic be permitted to turn right onto bend? May not be able to (should be checked).</p> <p>C. Is Kay Street & Unwin Street normally 40km/h. Will need to be signposted if not.</p>				<p><i>B. As stated on the TGS egress from the gate is Left Turn Only – No Vehicle is to make a right turn out of gate,</i></p> <p><i>C. Long Term 40 Km/h Speed zone reduction in place through the work area.</i></p>
LGP 63689-GLC 147 Unwin St Footpath Closure					
Sheet 4	<p>A. Does Kay St require heavy vehicle access. If so, will the barrier placement allow for heavy vehicles passing on the bend safely. Turn paths need to be checked.</p> <p>B. Is Kay Street & Unwin Street normally 40km/h? Will need to be signposted if not.</p>	Comment Only			<p><i>A. Barrier alignment has been checked alongside Swept path analyse,</i></p> <p><i>B. Long Term 40 Km/h Speed zone reduction in place through the work area.</i></p>
LGP 61681 GLC 143 Kay St Clyde footpath closure					
Sheet 4	<p>A. Ensure the temporary footpath is level with smooth transition to adjacent surface and no other trip hazards.</p>	Comment Only			<p><i>A. Will ensure Temporary footpath is level and smooth transition to adjacent surfaces as to avoid any trip hazards.</i></p>

1. TABLE 5 – AUDIT FINDINGS					
Audit Results	Audit Finding (Risk / Hazard, extent, crash type)	Risk Level	Recommendation/s	Client Response	
Audit Finding Ref.				Accept (Yes / No)	Action / comments
	B. The plans do not indicate whether the temporary footpath will be lit at night				<i>B. If Lighting is insufficient the area light towers/Day makers will be taken into consideration for set up of TGS.</i>
LGP 60632 GLC 136 Kay St Clyde CS3x4x5 TS3					
Sheet 4	Show location of hold line at temporary signals	Comment Only			<i>TGS now superseded by the Road closure, "Stop here on red signal" Signage is notated on the TGS with a 6m Distance.</i>
Sheet 5	The plans denote that a 3.5m wide lane must be maintained at all times. Does the 3.5m wide lane provide adequate turning room for safe access to and from adjacent businesses?	Comment Only			<i>There are no longer any adjacent businesses only, only used by GLC and the Racecourse, businesses on Colquhoun St will use Grand Ave for access and egress</i>
Sheet 6	Show location of hold line at temporary signals	Comment Only			<i>Not Temporary signals, it is Boom Gates at the start of the</i>
LGP 60589 GLC 135 Unwin St Rosehill CS3 Pedestrian refuge					

1. TABLE 5 – AUDIT FINDINGS

Audit Results	Audit Finding (Risk / Hazard, extent, crash type)	Risk Level	Recommendation/s	Client Response	
Audit Finding Ref.				Accept (Yes / No)	Action / comments
Sheet 4	The plans denote that a 3.5m wide lane must be maintained at all times. However, the plan also indicates that traffic cones or other traffic control measures will be required to delineate the lane. Will a full 3.5m lane width be available? If not, does this reduce the safety for vehicles and pedestrians, particularly if heavy vehicles utilise this road? Also, have the needs of cyclists been considered through this section of roadworks?	Comment Only			<i>3.5m Lane widths will be maintained at all times through the set up.</i>
LGP 59866 GLC 133 Kay St Clyde CS1 TS1					
Sheet 4	The plan does not show the available road width, and the lanes appear to be relatively narrow near the temporary traffic signals. The plan should include the location of the hold line for stopped vehicles and ensure there is adequate clearance available between through vehicles and stopped vehicles, particularly if there are heavy vehicles in the traffic flows.	Comment Only			<i>“Stop here on red signal” Signage is notated on the TGS with a 6m Distance. Lane widths are as per the Design Drawings</i>
LGP 63699 GLC 148 Unwin St Clyde Stop Slow					
Sheet 4	A. The plans indicate pedestrian movements will be controlled by boom gates, but do not indicate that traffic controllers will be onsite. It is possible that pedestrians may ignore the boom gates, which may result in conflict between pedestrians and construction vehicles.	Comment Only			<i>A. TC's will be on site during this TTM arrangement as to avoid the potential of Pedestrians who walk through the area and causing a optional hazard.</i>

1. TABLE 5 – AUDIT FINDINGS

Audit Results	Audit Finding (Risk / Hazard, extent, crash type)	Risk Level	Recommendation/s	Client Response	
Audit Finding Ref.				Accept (Yes / No)	Action / comments
	<p>B. Also, has consideration been given to cyclists through these roadworks?</p> <p>C. Are there any issues with queuing traffic when at a stop?</p> <p>D. What measures will there be in place to keep pedestrians to the alternate path route?</p> <p>E. How will emergency vehicle access be monitored?</p> <p>F. Is Unwin Street normally 40km/h. Will need to be signposted if not.</p>				<p>B. Cyclists will adhere to TTM arrangement as like any other road user.</p> <p>C. Adequate queue monitors will be in place to manage queue lengths.</p> <p>D. TC's to be on site, also no Footpath along the western side of Unwin St at this location.</p> <p>E. Emergency Vehicles will be given priority through the closure at all times.</p> <p>F. Long Term 40 Km/h Speed zone reduction in place through the work area.</p>
Review Purposes Only					
Sheets 1 - 9	<p>A. It is not clear whether VMS are provided throughout the precinct to inform motorists about the road closures and detours. It would be best to inform drivers to avoid the area and take alternative routes rather than become frustrated or confused at the</p>	Comment Only			<p>A. VMS will be in place 10 days or more prior to the Road Closure as per the VMS strategy in the CTMP.</p>

1. TABLE 5 – AUDIT FINDINGS					
Audit Results	Audit Finding (Risk / Hazard, extent, crash type)	Risk Level	Recommendation/s	Client Response	
Audit Finding Ref.				Accept (Yes / No)	Action / comments
	<p>roadworks.</p> <p>B. Are the roads indicated normally speed limited at the zones indicated? Will need to be signposted if not.</p>				<p><i>B. Speed Zones designated on the TGS are as per the Existing Speed limit if speed reduction is required it will be shown on TGS</i></p>

6. CONCLUDING STATEMENT

The audit team certify as identified in this report it has examined the documentation provided and have inspected the site in undertaking this RSA. The audit team also confirm that this audit has been carried out in accordance with the Austroads *Guide to Road Safety, Part 6 –Road Safety Audit (2022)* and in accordance with the Transport for NSW Works Authorisation Deed requirements.

The audit has been completed for the sole purpose of identifying any risks found within the design which could be mitigated to improve the road safety of the project.

The accompanying risks and associated recommendations and mitigation measures have been recorded for consideration by the Client for implementation.

- a) Prior to construction to improve the safety of the scheme. (Design Desktop Audits)
- b) ~~To improve the safety of the implemented constructed works / traffic scheme, (Pre or Post Opening / Traffic Scheme Audits) or~~
- c) ~~Identify any road safety issues that may be present as part of an existing traffic scheme. (Existing Conditions / Traffic Scheme Audits)~~
(delete inapplicable statement/s above)



Andy Davis, Lead Road Safety Auditor
StreetWise Road Safety & Traffic Services Pty Ltd
Level 3 # RSA-02-0678
(Email:- andy@streetwisersa.com.au)



Craig Nethery, Lead Road Safety Auditor
StreetWise Road Safety & Traffic Services Pty Ltd
Level 3 #RSA-02-0230
(Email:- craig@streetwisersa.com.au)

6 Appendix C – Stakeholder Consultation

UNWIN STREET TEMPORARY CLOSURE – COMMUNICATIONS PLAN

Sydney Metro West – Western Tunnelling Package

ISSUE DATE: 10 NOVEMBER 2023

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INTRODUCTION

PURPOSE

The purpose of this plan is to explain Gamuda Australia and Laing O'Rourke Consortium's (GLC) communications approach for the Unwin Street, Rosehill weekend road closure for works associated with the Sydney Metro West Western Tunnelling Package project and how GLC will manage communications to align with the program of works and risks associated.

COMMUNITY AND STAKEHOLDER ANALYSIS

The temporary Unwin Street closure will be led by the GLC site team with support from the Communication and Stakeholder Engagement team.

The key stakeholders for this temporary road diversion include businesses in the vicinity of the work area were doorknocked by the Place Manager and Communication Advisor between 8 and 10 November to identify impacts of work to their business. Businesses were informed of the 56 hour Unwin Street/Wentworth Street and Kay Street road closure proposed early to mid December.

Information collected from businesses include;

- General weekend operating hours
- Christmas period operating hours
- Business and customer use of Unwin Street
- Impact of proposed works on the business
- Updated contact details

No issues or concerns were raised from businesses regarding the closure.

Businesses identified for consultation are outlined in the following tables below;

- Businesses located within close proximity to the work area.

Business	Address	Operating hours during proposed closure	Impact to business	Feedback from business
Sektor Sydney	2 Unwin Street, Rosehill	Saturday – Closed Sunday - Closed	Work has no impact to business.	Hours not extending for Christmas, last pickup Friday night is 7pm, first pickup Monday morning is 5am.
Chestnut Café	2 Unwin Street, Rosehill	Saturday – Closed Sunday - Closed	Work has no impact to business.	Closed from 2pm Friday, no weekend trading hours.
Winning Services Warehouse	15 Shirley Street, Rosehill	Open 24 hours for deliveries.	Work impact courier route. Will advise couriers to use alternate routes during closure. Requested a notification when works are approved.	Most deliveries occur between 4am and 9am with 3pm being the cut off time to receive deliveries over the weekends. Business has no issue with work occurring.
Courier Please	7 Shirley Street, Rosehill	Open 24 hours for deliveries	Work impact to courier route. Will advise couriers to use alternate route for closure. Requested map when works are approved.	Peak period for couriers. Business has no issue with work occurring.
Prodrive Compliance Group	11 Shirley Street, Rosehill	Saturday – Closed Sunday - Closed	Work has no impact to business.	Not open on weekends.

Business	Address	Operating hours during proposed closure	Impact to business	Feedback from business
Team Global Express	2 Unwin Street, Rosehill	Saturday – 4am to 7pm Sunday – 4am to 7pm	Work impact to courier route. Will advise couriers to use alternate route for closure. Requested map when works are approved.	Peak period for couriers. Business has no issue with work occurring. Requested that the timings on the traffic lights on Grand Avenue be extended during this time.
Stay Upright	30 Wentworth Street, Clyde	Saturday – 7am to 5pm Sunday – 7am to 5pm	Discussion held with business to advise access will remain via traffic control. Business uses Unwin Street for some courses but have an alternate route that can be utilised. Additional signage will be provided advising Stay Upright is open and accessible.	Stay upright operate all weekend are located within the road closure. Business did not raise any immediate concerns but would like the confirmed date as soon as possible so they can plan for courses run on that weekend. Further discussions with Stay upright will be held once approvals are in place.

- Businesses south of the work area on Martha, Kendall, Wentworth, Harbord, and Darcy Streets in Clyde.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
ZATMAS	16-28 Martha Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Thrifty Bathrooms and Plumbing	16-28 Martha Street, Clyde	Saturday – 8am to 4pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Adaptas Solutions	2-8 Martha Street, Clyde	Saturday – 6:30pm to 2:00pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Doug Smith Appliance Spares	28 Martha Street, Clyde	Saturday – 9am to 12pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Melcar Wines	28 Martha Street, Clyde	Saturday – Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
		Sunday - Closed		
Technology City	28 Martha Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	
Turbans 4 Australia	14 Martha Street, Clyde	Saturday – 7am to 2pm Sunday – 9am to 12pm	Business was not open at time of doorknock.	
The Great Ozzy Bakehouse / Hooked 'n' Smoked	23 Kendall Street, Clyde	Warehouse	Business was not open at time of doorknock.	
AutoJoy	21 Kendall Street, Clyde	Saturday - 9am to 1pm Sunday - Closed	Work has no impact to business.	No concerns raised. Will use alternate route to test cars.
AutoJoy	19 Kendall Street, Clyde	Saturday - 9am to 1pm Sunday - Closed		

Business	Address	Operating hours during closure	Impact to business	Feedback from business
AUSFF	15 Kendall Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
PlastaMasta Granville	14 – 22 Kendall Street, Clyde	Saturday – 6am to 11am Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Access Print Solutions	9 Kendall Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Coates	25 Parramatta Road, Granville	Saturday- 7am to 12pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Maison Furniture	8-10 Kendall Street, Clyde	Warehouse	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Ey United Pty Ltd	11-13 Kendall Street, Clyde	Saturday - 7am to 5pm	Work has no impact to business.	No concerns were raised. Requested notification once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
		Sunday - Closed		
AG Pulie Pty Ltd	27 Wentworth Street, Clyde	Saturday – Open for workers Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Cowper Smash Repairs	19 Wentworth Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Otemac Engineering / Alfa Triton	18 Wentworth Street, Clyde	Otemac Engineering Saturday – Closed Sunday - Closed Alfa Triton Open 24 hours	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Team K Kustoms	14-16 Wentworth Street, Clyde	Saturday – 8:30pm to 12:30pm	Customers use Unwin Street/ Wentworth Street.	Requested a poster to inform customers of detour and a notification once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
		Sunday - Closed		
Hydraulink Hose and Fittings	12 Wentworth Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised.
Ma Belle Cherri	8 Wentworth Street Clyde	24 hours	Was not open at time of doorknock.	
Green Goanna	10 Wentworth Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
APCD Australasian PC Distributors / SensaTEK	16 Harbord Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Taubmans Professional Paint Care	8 Harbord Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
HP Solutions	12 Harbord Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Kartel Logistics	4 Harbord Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
PPG	4 Harbord Street, Clyde	Saturday – 8:30am – 12pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Precision Automotive Equipment	4 Harbord Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Sus Stone & Marble Granite Pty Ltd	9 Harbord Street, Clyde	Saturday – 8am to 2pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
Clyde Ayto Mechanical Repair	3 - 5 Harbord Street, Clyde	Saturday – 8am to 2pm Sunday – Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Star Copper Scrap Yard	Harbord Street	Saturday – 7:30am to 2:pm Sunday – Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
D Moto Motorcycle Engineering	3-5 Harbord Street, Clyde	Saturday – 9am to 12pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Fresh Star Enterprises	11 Harbord Street, Clyde	Saturday – 9am to 6pm Sunday – 9am to 6pm	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Triplenine Group Pty Ltd	2 Darcy Street, Clyde	Saturday – Closed Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.

- Businesses north of the work area on Grand Ave and Colquhoun Street in Camellia/Rosehill.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
Armagaurd	11c Grand Avenue, Camellia	Open 24 hours	Work has no impact to businesses on Shirley or Grand Avenue. All trucks use Grand Avenue.	No concerns were raised. Requested notification once approved.
Caravan and Camping Industry Association NSW	1 Grand Avenue, Camellia	Saturday – Closed Sunday - Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised. Requested notification once approved.
HSM IT Solutions	1c Grand Avenue, Camellia	Saturday – Closed Sunday - Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised. Requested notification once approved.
Explore and Develop Parramatta – Early Learning Centre	1c Grand Avenue, Camellia	Saturday – Closed Sunday - Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised. Requested notification once approved.
Go Logistics	11 Grand Avenue, Camellia	Saturday – Closed	Not available at time of contact.	

Business	Address	Operating hours during closure	Impact to business	Feedback from business
		Sunday - Closed		
Andrew Crane Hire Pty Ltd	Grand Avenue, Camellia	Open 24 hours	Not available at time of contact.	
Greenmark / PAC trading	11B Grand Avenue, Camellia	Saturday – Closed Sunday - Closed	Not available at time of contact.	
Compu-Stor	11A Grand Avenue, Camellia	Saturday – Closed Sunday - Closed	Work has no impact to business. Not open on the weekends.	No concerns were raised.
Pie Face Pty Ltd	7 Grand Avenue, Camellia	Saturday – Closed Sunday – Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.
Parramatta – Motor Group Service Centre	3-5 Grand Avenue, Camellia	Saturday – 8am to 2pm Sunday - Closed	Work has no impact to business.	No concerns were raised. Requested notification once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
Trilox Pty Ltd / Signature Training	1C Grand Avenue, Camellia		Work has no impact to business.	No Concerns were raised.
Veolia Environmental Services	37 Grand Avenue, Camellia	Saturday – 6am to 11:30am Sunday - Closed	No impacts currently identified by business.	No immediate concerns. Requested notification once approved.
Just Skip Bins	39 Grand Avenue, Camellia	Saturday – 7am to 12pm Sunday - Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised.
Enhance Cameilla	17 Grand Avenue, Camellia	Open 24 hours	Not available at time of contact.	
AB Mauri Australia	15 Grand Avenue, Camellia	Saturday – Closed Sunday - Closed	Not available at time of contact.	
SAMI Bitumen Technologies	12 Grand Avenue, Camellia		Work has no impact to business. Not open on the weekends.	No concerns were raised.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
Hymix	14 Grand Avenue, Rosehill		Not available at time of contact.	
CSR Monier Roofing – Manufacturing only	10 Grand Avenue, Rosehill	Saturday – Closed Sunday - Closed	Work has no impact to business. Not open on the weekends.	No concerns were raised.
KLF Holdings	16 Grand Avenue, Camellia	Saturday - 6:30am to 4:30pm Sunday - Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised. Requested notification once approved.
Café on Camellia	21 Grand Avenue, Camellia	Saturday – 4:30am to 4pm Sunday - Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised. Requested notification once approved.
Wolves Sports Association / Billbergia Indoor Sports Centre	9 Grand Avenue, Camellia	Saturday – 9am to 9pm Sunday - Closed	Work has no impact to business.	Requested signage be provided for their office to inform customers of detours once approved.

Business	Address	Operating hours during closure	Impact to business	Feedback from business
Carlton United Brewery Warehouse	Colquhoun St, Rosehill	Saturday – 8am to 5pm Sunday – Closed	Work has no impact to business. Business uses Grand Avenue.	No concerns were raised. Requested notification once approved.

COMMUNICATION APPROACH

The table below outlines the communications process to engage with the property owners and tenants.

Activity	Timing	Detail	Status
Doorknock	8-10 November	Provide briefing to businesses around the work site of the planned road closure.	Complete
Client Briefing – 30 Wentworth Street, Clyde	9 November	Provide briefing of proposed works and communications plan to Stay Upright - 30 Wentworth Street, Clyde.	Complete
Planned work included into the monthly notification	25 November	Hard copy of the notification letterbox dropped to stakeholders and businesses 500m+ around work area plus additional areas to include areas affected by the closure; <ul style="list-style-type: none"> - Martha Street - Shirley Street - Wentworth Street - Colquhoun Street - Harbord Street - Kendell Street - Darcy Street - Grand Avenue - Devon Street - Durham Street - Thackeray Street. 	To-do
Planned work included in the email notification to stakeholders signed up to the Clyde email distribution list	25 November	Email monthly letter notification to stakeholders signed up to the Clyde distribution list.	To-do
Signage installation	1 December	Installation of signage around streets impacted by the road closure or pedestrian access.	To-do

Activity	Timing	Detail	Status
Doorknock	1 December	Doorknock business impacted during shut-down of Unwin Street.	To-do
Letterbox drop letter notification	1 December	Notification letterbox dropped to businesses affected by the closure; <ul style="list-style-type: none"> - Martha Street - Shirley Street - Wentworth Street - Colquhoun Street - Harbord Street - Kendell Street - Darcy Street - Grand Avenue - Devon Street - Durham Street - Thackeray Street. 	To-do
Reminder email notification to stakeholders signed up to the Clyde email distribution list	4 December	Email reminder notification reminder to businesses impacted by the closure.	To-do
Reminder email notification to stakeholders signed up to the Clyde email distribution list	8 December	Email reminder notification reminder to businesses impacted by the closure.	To-do

CHANNELS FOR FEEDBACK

In the event of any complaints or feedback from the public, the complaint shall be directed to Sydney Metro West Community Infoline at 1800 612 173 or sydneymetrowest@transport.nsw.gov.au.

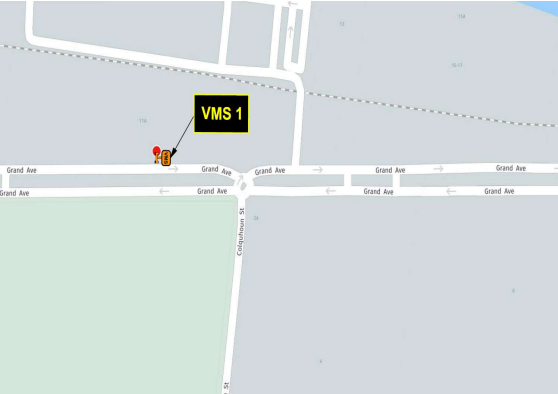
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Attachments	Item	Date	Rev	Raised By Company	Commented By	Comments	Closed-Out	Document Ref	Comments
No	22	6/11/2023 15:17	A	Transport for New South Wales	Luke Wilby	Please attach full road safety audit so requirements are confirmed as being met, e.g. road safety auditor qualifications and site inspections etc.	N	Appendix D - Road safety audit	RSA has been updated with-in Appendix B
No	21	6/11/2023 15:16	A	Transport for New South Wales	Luke Wilby	No TGS have been provided. Please include all relevant TGS so a safety assessment can be carried out on them.	N	Appendix A - TGS	TGS's added to Appendix A
No	20	6/11/2023 15:15	A	Transport for New South Wales	Luke Wilby	The HV turnaround route puts vehicles on the wrong side of the road - increasing the risk of confusion from drivers and crashes. Is there a reason why vehicles are not travelling the correct way along the Shirley Street?	N	Figure 2 heavy vehicle turnaround route	Refer to Appendix A for Swept path of Heavy Vehicle turn a point and updated view on LGP - 63822 - GLC 151 (page 7)
No	19	6/11/2023 11:40	A	Customer Journey Planning	Peter Keyes	Specify the size of each proposed VMS.	N	Appendix I	C Class VMS will be used prior to Closure - Overhead VMS will be utilized were possible.
No	18	6/11/2023 11:39	A	Customer Journey Planning	Peter Keyes	24hr time should not be used on VMS, use AM/PM so the public can understand.	N	Appendix I	VMS messaging has been updated to reflect
No	17	6/11/2023 11:39	A	Customer Journey Planning	Peter Keyes	Proposed messaging should be no longer than 8 characters per line, 3 lines per frame, max 2 frames.	N	Appendix I	VMS messaging has been updated to reflect,
No	16	6/11/2023 11:38	A	Customer Journey Planning	Peter Keyes	Detailed designs are not required in a CTMP. Remove.	N	Appendix G	Removed as requested
No	15	6/11/2023 11:38	A	Customer Journey Planning	Peter Keyes	Generic checklists should be included in the overarching CTMP and are not required in each and every CTMP.	N	Appendix F	Removed as requested
No	14	6/11/2023 11:38	A	Customer Journey Planning	Peter Keyes	Please provide an actual stakeholder / comms plan.	N	Appendix E	
No	13	6/11/2023 11:37	A	Customer Journey Planning	Peter Keyes	Remove the TTLG/TCG presentations from the CTMP, they are not required.	N	Appendix E	Removed and will replace with Stakeholder/Comms Plan
No	12	6/11/2023 11:37	A	Customer Journey Planning	Peter Keyes	Road Safety Audit appears to be a general design review rather than an RSA.	N	Appendix D	RSA comment in Section 6.1 Road Safety Audits, RSA was done as a Desktop Audit for the desgin drawings, A onsite RSA will be done once works are completed on the night of completion and day of implementation
No	11	6/11/2023 11:37	A	Customer Journey Planning	Peter Keyes	Road Safety Audit contains no details of the auditors or their qualifications.	N	Appendix D	RSA has been updated with-in Appendix B
No	10	6/11/2023 11:36	A	Customer Journey Planning	Peter Keyes	The Road Safety Audit is to include a list of the drawings audited, including the revision.	N	Appendix D	RSA has been updated with-in Appendix B
No	09	6/11/2023 11:36	A	Customer Journey Planning	Peter Keyes	Why have an appendix for a document and then say its provided separately? Remove both Appendices.	N	Appendix B & C	Removed as Requested
No	08	6/11/2023 11:35	A	Customer Journey Planning	Peter Keyes	Include the actual TGS' in the CTMP.	N	Appendix A	TGS's added to Appendix A
No	07	6/11/2023 11:35	A	Customer Journey Planning	Peter Keyes	Delap reports are not required in a CTMP.	N	Clause 1.6	Removed as Requested
No	06	6/11/2023 11:35	A	Customer Journey Planning	Peter Keyes	As per previous advice from CJP arrangements should be in place to capture/divert heavy vehicles at the Devon St / Colquhoun St intersection.	N	Clause 1.5	Road Closure TGS has been updated to capture this arrangement: refer to Appendix A - LGP - 63822 - GLC 151 - Wentworth Unwin St - Clyde - CS6 TS4 - RC (REV2)
No	05	6/11/2023 11:34	A	Customer Journey Planning	Peter Keyes	Provide turning paths for the proposed vehicles utilising this turn around facility.	N	Clause 1.5	Swept Path for turn point for vehicles utilising this facility is provided in Appendix A
No	04	6/11/2023 11:34	A	Customer Journey Planning	Peter Keyes	The Ministers CoA compliance table and Environment Measures tables are not required in a CTMP.	N	Clause 1.4	Removed as Requested
No	03	6/11/2023 11:34	A	Customer Journey Planning	Peter Keyes	The objectives should be in the overarching CTMP and are not required in each and every CTMP.	N	Clause 1.3	Removed as Requested
No	02	6/11/2023 11:33	A	Customer Journey Planning	Peter Keyes	CTMP should start with a clear indication of exactly what the TMP proposes, when the works will occur, and why the closures are required.	N	General	Day By Day of planned works during the 56hour closure added to CTMP: refer to section 1.3
No	01	6/11/2023 11:33	A	Customer Journey Planning	Peter Keyes	The quality of this CTMP is well below minimum standards and should be completely revised to ensure the minimum requirements of CTMPs as prescribed in the SWTC are met.	N	General	


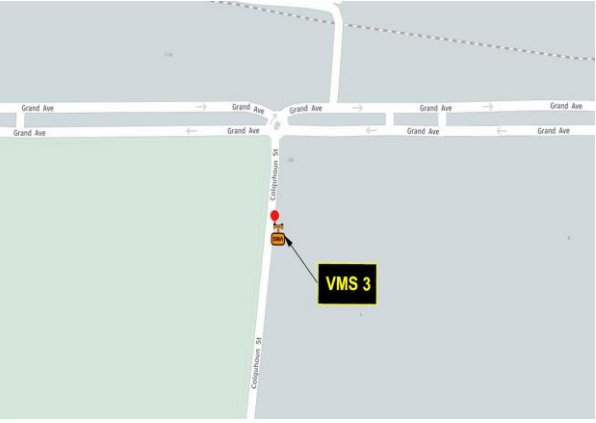

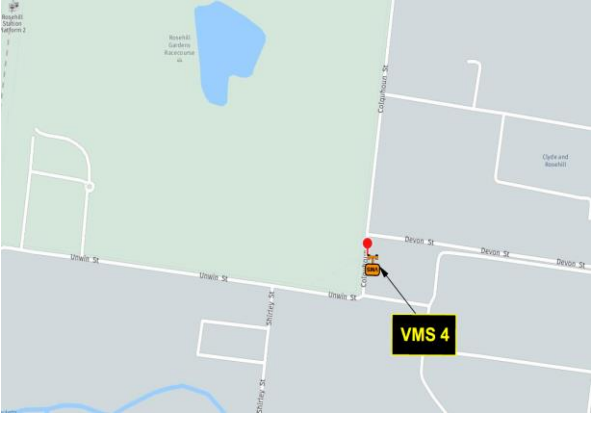
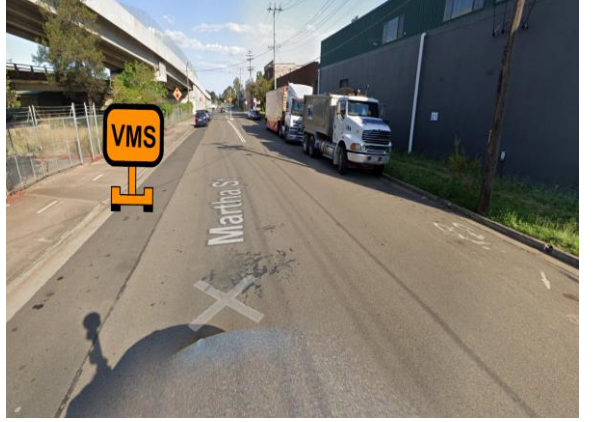


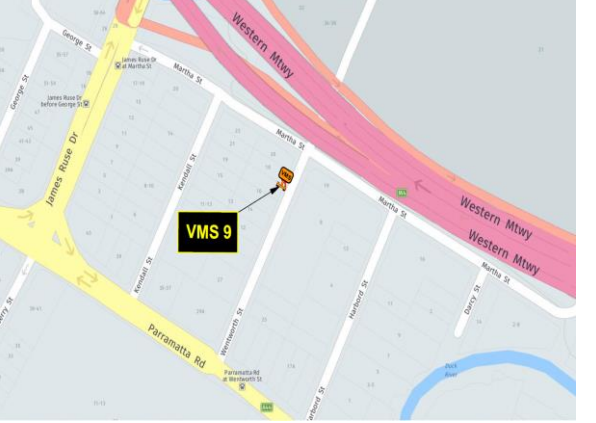


7 Appendix D – Hour by Hour Program for 56-Hour Shut-Down

Switch to New Alignment Traffic Switch 4	Start time	Finish Time	Duration	Sunday 10/12/23																							Monday 11/12/23				
				2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1	2	3	4	5
				Shift 4																	Shift 5										
Lane Closures																															
TGS ## - Road Closure with managed access	Fri 21:00	Mon 5:00	56hrs																												
TGS ## - Shuttle flow in the new northbound lanes																															
TGS ## - Shuttle flow in the new southbound lanes	Mon 3:00	Mon 6:00	3hrs																												
Traffic Management Setup																															
Traffic Control setup - Road Closure - managed access through new northbound lane	Fri 20:00	Fri 22:00	3hrs																												
Demob Traffic Management	Fri 20:00	Fri 22:00	3hrs																												
Line Marking Removal																															
Removal of redundant linemarking	Sun 17:00	Sun 19:00	2hrs																												
Line mark the tie in areas on Wentworth St and Unwin St	Sun 19:00	Sun 23:00	4hrs																												
Safety Barriers and Signage																															
Remove Concrete Safety Barrier in the northbound alignment	Fri 23:00	Sat 04:00	5hrs																												
Remove Type M Crash Cushions	Sat 03:00	Sat 04:00	1hrs																												
Site Setup and Concrete Breakout																															
Sawcut existing kerb, footpath and tie-ins	Fri 23:00	Sat 01:00	2hrs																												
Breakout and remove existing kerb and footpath	Sat 01:00	Sat 03:00	2hrs																												
Breakout and remove existing AC	Sat 03:00	Sat 07:00	4hrs																												
Excavate to level	Sat 7:00	Sat 10:00	3hrs																												
Conform subgrade	Sat 10:00	Sat 12:00	4hrs																												
Install Drainage																															
Southern Drainage Line																															
Excavate southern drainage line	Sat 12:00	Sat 15:00	3hrs																												
Install southern drainage line	Sat 15:00	Sat 19:00	4hrs																												
Connect new drainage to existing drainage pit	Sat 19:00	Sat 21:00	2hrs																												
Backfill SB Drainage Line	Sat 21:00	Sat 24:00	3hrs																												
Earthworks Fill																															
Place and Compact Fill	Sat 24:00	Sun 5:00	5hrs																												
FPR Kerb	Sun 3:00	Sun 6:00	3hrs																												
Pavement																															
Mobilise AC Crew	Sun 6:00	Sun 7:00	1hrs																												
Place 50mm AC	Sun 7:00	Sun 11:00	4hrs																												
Demob AC	Sun 11:00	Sun 12:00	1hrs																												
Establish Access Gates																															
Place Barriers	Sun 12:00	Sun 15:00	3hrs																												
Install Gates	Sun 12:00	Sun 15:00	3hrs																												
Install Signage	Sun 12:00	Sun 15:00	3hrs																												
Reinstatement Works																															
Install temporary fencing to ensure the site is secure	Sun 15:00	Sun 17:00	2hrs																												
Protect any works yet to be completed	Sun 15:00	Sun 17:00	2hrs																												
Linemarking and barriers																															
Line mark the tie in areas on Wentworth St and Unwin St	Sun 17:00	Sun 20:00	3hrs																												
Clear work area and ensure road is clear of obstructions	Sun 17:00	Sun 20:00	3hrs																												
Traffic Control																															
Open new path on the western side of Wentworth St and estern side of Unwin St	Sun 20:00	Sun 22:00	2hrs																												
Contingency	Sun 22:00	Mon 4:00	6hrs																												
Remove Traffic Control	Mon 04:00	Mon 05:00	2hrs																												

8 Appendix E – VMS Strategy for 56-Hour Shut

VMS UNIT	STREET VIEW	AERIAL LOCATION	LOCATION	DIRECTION		MESSAGING (PRIOR TO CONSTRUCTION)	MESSAGING DURING CONSTRUCTION
						Friday 1/12 to 2200 Friday 8/12	2200 Friday 8/12 to 0500 Monday 11/12
VMS 1 (C Class)			GRAND AVE, ROSEHILL NSW 2142	FACING EASTBOUND TRAFFIC ON GRAND AVE, 100m WEST OF COLQUHOUN ST	SCREEN 1	UNWIN ST CLOSURE	UNWIN ST CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 2 (C Class)			GRAND AVE, ROSEHILL NSW 2142	FACING WESTBOUND TRAFFIC ON GRAND AVE, 100m EAST OF COLQUHOUN ST	SCREEN 1	UNWIN ST CLOSURE	UNWIN ST CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 3 (C Class)			COLQUHOUN ST, CAMELLIA NSW 2142	FACING SOUTHBOUND TRAFFIC ON COLQUHOUN ST, 70m SOUTH OF GRAND AVE	SCREEN 1	UNWIN ST CLOSURE	UNWIN ST CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 4 (C Class)			COLQUHOUN ST, CAMELLIA NSW 2142	FACING SOUTHBOUND TRAFFIC ON COLQUHOUN ST, 40m SOUTH OF DEVON ST	SCREEN 1	UNWIN ST CLOSURE	UNWIN ST CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 5 (C Class)			PARRAMATTA RD, CLYDE NSW 2142	FACING WESTBOUND TRAFFIC ON GREAT WESTERN HWY, ON GRASS AREA OUTSIDE 2B PARRAMATTA RD	SCREEN 1	WENTW'TH STREET CLOSURE	WENTW'TH STREET CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 6 (C Class)			10 JAMES RUSE DR, CLYDE NSW 2142	FACING EASTBOUND TRAFFIC ON GREAT WESTERN HWY, ON GRASS AREA OUTSIDE 10 JAMES RUSE DR	SCREEN 1	WENTW'TH STREET CLOSURE	WENTW'TH STREET CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR

						Friday 1/12 to 2200 Friday 8/12	2200 Friday 8/12 to 0500 Monday 11/12
VMS 7 (A Class)			19 JAMES RUSE DR, CLYDE NSW 2142	FACING SOUTHBOUND TRAFFIC ON JAMES RUSE DR, ON THE CORNER OF MARTHA ST AND JAMES SMALL DR	SCREEN 1	WENTW'TH STREET CLOSURE	WENTW'TH STREET CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 8 (B Class)			MARTHA ST, CLYDE NSW 2142	FACING EASTBOUND TRAFFIC ON MARTHA ST, 60m WEST OF WENTWORTH ST	SCREEN 1	WENTW'TH STREET CLOSURE	WENTW'TH STREET CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 9 (B Class)			WENTWORTH ST, CLYDE NSW 2142	FACING NORTHBOUND TRAFFIC ON WENTWORTH ST, 20m SOUTH OF MARTHA ST	SCREEN 1	WENTW'TH STREET CLOSURE	WENTW'TH STREET CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 10 (B Class)			MARTHA ST, CLYDE NSW 2142	FACING WESTBOUND TRAFFIC ON MARTHA ST, 50m EAST OF WENTWORTH ST	SCREEN 1	WENTW'TH STREET CLOSURE	WENTW'TH STREET CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 11 (Overhead VMS)			OVERHEAD VMS - JAMES RUSE DR, CLYDE NSW 2142	SOUTHBOUND LANE ON JAMES SMALL DR, 40m SOUTH OF HOPE ST	SCREEN 1	UNWIN ST WENTW'TH CLOSURE	UNWIN ST WENTW'TH CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR
VMS 12 (Overhead VMS)			OVERHEAD VMS - PARRAMATTA RD, CLYDE NSW 2142	SOUTHBOUND LANE ON JAMES SMALL DR, EAST OF MORT ST	SCREEN 1	UNWIN ST WENTW'TH CLOSURE	UNWIN ST WENTW'TH CLOSED
					SCREEN 2	10pm 08/12 to 5am 11/12	FOLLOW DETOUR

VMS UNIT	STREET VIEW	AERIAL LOCATION	LOCATION	DIRECTION		MESSAGING (POST CONSTRUCTION)
						0500 Monday 11/12 to Friday 22/12
VMS 1 (C Class)			COLQUHOUN ST, CAMELLIA NSW 2142	FACING SOUTHBOUND TRAFFIC ON COLQUHOUN ST, 70m SOUTH OF GRAND AVE		CHANGED TRAFFIC CONDITIONS
						REDUCE SPEED
VMS 2 (C Class)			COLQUHOUN ST, CAMELLIA NSW 2142	FACING SOUTHBOUND TRAFFIC ON COLQUHOUN ST, 40m SOUTH OF DEVON ST		CHANGED TRAFFIC CONDITIONS
						REDUCE SPEED
VMS 3 (B Class)			MARTHA ST, CLYDE NSW 2142	FACING EASTBOUND TRAFFIC ON MARTHA ST, 60m WEST OF WENTWORTH ST	SCREEN 1	CHANGED TRAFFIC CONDITIONS
					SCREEN 2	REDUCE SPEED
VMS 4 (B Class)			WENTWORTH ST, CLYDE NSW 2142	FACING NORTHBOUND TRAFFIC ON WENTWORTH ST, 20m SOUTH OF MARTHA ST	SCREEN 1	CHANGED TRAFFIC CONDITIONS
					SCREEN 2	REDUCE SPEED
VMS 5 (B Class)			MARTHA ST, CLYDE NSW 2142	FACING WESTBOUND TRAFFIC ON MARTHA ST, 50m EAST OF WENTWORTH ST	SCREEN 1	CHANGED TRAFFIC CONDITIONS
					SCREEN 2	REDUCE SPEED