

# St Marys Demolition works Construction Traffic Management Plan

Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works

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#### **Document approval**

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Signature			





#### **Details of Revision Amendments**

#### **Document Control**

The Project Director is responsible for ensuring that this plan is reviewed and approved. The Project Traffic Manager is responsible for updating this plan to reflect changes to construction, legal and other requirements, as required.

#### **Amendments**

Any revisions or amendments must be approved by the Project Traffic Manager and/or client before being distributed/implemented.

#### **Revision Details**

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A.01	For review
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#### 1.Introduction

# 1.1. Project and location

The Project forms part of the broader Sydney Metro network. It involves the construction and operation of a 23km new metro rail line that extends from the existing Sydney Trains suburban T1 Western Line (at St Marys) in the north and the Aerotropolis (at Bringelly) in the south. The alignment includes a combination of tunnels and civil structures, including viaduct, bridges, surface and open-cut troughs between the two tunnel sections (Figure 1).

The Project will be delivered through a number of works packages including the Station Boxes and Tunnelling Works (SBT Works). The SBT Works includes the design and construction of:

- Two sections of twin tunnels with a total combined length of approximately 9.8km, plus associated portal structures, one from Orchard Hills to St Marys and the other under Western Sydney International (WSI) airport to the new Aerotropolis Station in New South Wales (NSW)
- Excavations at either end to enable trains to turn back and stub tunnels to enable future extensions
- Station box excavations with temporary ground support for four stations at St Marys, Orchard Hills, Airport Terminal and Aerotropolis
- Excavations for two intermediate service facilities, one in each of the tunnel sections at Claremont and Bringelly.









# 1.2. Purpose

This St Marys site specific Construction Traffic Management Plan Demolition works (CTMP or this plan) has been developed by CPB Contractors Ghella Joint Venture (CPBG) to identify the traffic management measures at the St Marys demolition associated with the Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works (SBT Works).

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 SBT works including but not limited to motorists, pedestrians, cyclists, public transport users, local residents, property owners, business owners and workers/ staff.

This plan has been prepared in accordance with SSI 10051 Planning Approval Condition E103 and will be submitted to the Planning Secretary of the NSW Department of Planning, Environment and Industry for information.





# 2.Locality and existing conditions

This plan has been prepared assuming that the works to be undertaken by other contractors as identified below have been implemented or in the process of delivery

Table 1: Works undertaken by others

Location			
Glossop Street, St Marys	Glossop Street Widening and Rail Corridor Improvement works	Glossop Street widening completed	
		Rail corridor improvement works ongoing	
St Marys	Temporary Bus Interchange	Completed	
St Marys Station	Sydney Trains Lift replacement works	Ongoing	
East Lane, St Marys	Conversion of East Lane to 10km.hr shared zone	Completed	

The site is located is bounded by Station Street to the north, the temporary bus interchanges to the west, Phillip Street to the north and residential buildings to the east. The site is located within the Penrith City Council Local Government Area (LGA). The site is shown on Figure 2.



Figure 2: Site locality





#### 2.1. Station Street

Station Street is a local road which falls under the care and control of Penrith City Council. It commences at Lethbridge Street and terminates at Queen Street. The current speed limit is 50km/hr from Lethbridge Street and encompasses the existing residential properties at the eastern end of Station Street. A 40km/hr speed limit is in place west of the 50km/hr, due to high pedestrians activity around the St Mary train and bus interchange and existing retail facilities

The bus interchange has been relocated south and is accessed from Queen Street. Station Street has been closed to the west of the station plaza private road The Taxi Zone has also been relocated to the cul de sac at the northern end of Queens Street.

There is a small section of 1P parking. No other parking restrictions exist refer to Figure 3 (indicative parking around the site extracted from EIS chapter 9).

Footpaths are provided on the southern side of Station Street for its full length. A footpath on the northern side varies in width and is provided from Queen Street to the driveway of 1A Station Street.

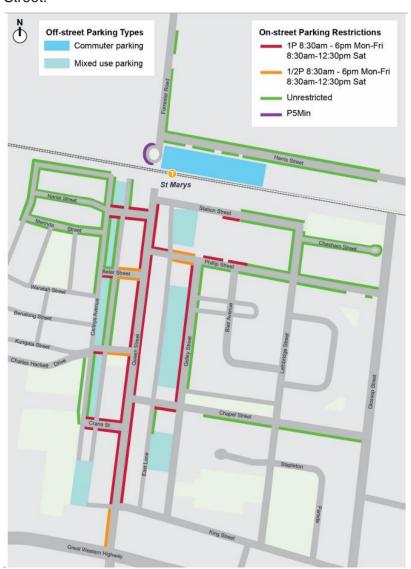


Figure 3: Parking restrictions around the site (Source: EIS Chapter 9)





# 2.2. Phillip Street

Phillip Street is a local road which falls under the care and control of Penrith City Council. It commences at Queen Street and terminates at Glossop Street. The current speed limit is 50km/hr to the east of the site and 40km/hr across the site frontage to Queen Street due to high pedestrian activity.

Bus stops exist on Phillip Street near the intersection of Glossop Street and on both sides of the street between Queen Street and East Lane for a number of bus services, 745, 758, 774, 782, 835, S11 that end and begin their journey at the bus interchange.

1P parking is provided on the northern side of Phillip Street, outside of the construction site, 1/2P parking is provided on both sides of Phillip Street between Gidley Street and East Lane. Public parking has been removed and replaced by a bus zone by others (outside the scope of this CTMP) on Phillip Street between Queen Street and East Lane. No other parking restrictions are installed. Marked foot crossings are provided outside of the site and again at the intersection with Queen Street.

TfNSW's Cycleway Finder notes that Phillip Street between Blair Avenue and Queen Street is a low difficulty on road route (refer to Figure 4).

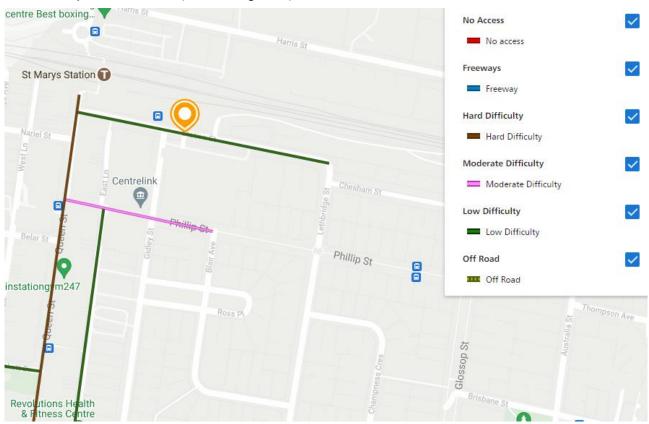


Figure 4: TfNSW's Cycleway Finder





#### 3. Demolition Works

Duration: Approximately 5 months
Timing: June to September 2022

#### 3.1. Station Plaza Works

Station Plaza is required to be demolished to make way for the Station Box and Tunnelling Works. The plaza is located as shown on Figure 5



Figure 5: Station Plaza site

Traffic generating activities during the works involve the movement of light and heavy vehicles such as tippers, bin trucks and single unit trucks and truck and dogs. Machinery includes excavators, mobile and truck mounted cranes and miscellaneous small machinery.

Works will generally be undertaken during standard construction hours of 7AM to 6PM Monday to Friday and 8AM to 1PM on Saturdays in accordance with SSI Planning Approval Condition E38.







#### 3.2. Northern Site Works

The only demolition works on the northern side of Station Street are the demolition of bus shelters and base slab. As these works will be contained fully within the northern site, traffic management arrangements will be covered by the updated CTMP for St Marys Site Establishment.

Note: this is a traffic management document focusing on the Station Plaza site.

For demolition methodology, please refer to Demolition Work Plan.







# 3.3. Operating Conditions

Access route for construction vehicles will be via Phillip Street, Lethbridge Street, Station and Gidley Street. The construction access will be via Gidley St using an existing driveway as shown in Figure 6. Refer to the Heavy Vehicle Local Road report for St Marys demolition and site establishment which has been provided separately.



Figure 6: Gidley Street existing driveway







Egress would be directly onto Phillip Street via a left turn only, refer to Figure 7. VMP for this stage of works has been included in Appendix 1 with swept paths included in Appendix 7.



Figure 7: Egress via Phillip Street

# 3.3.1. Impact on traffic flow

There will be minimal impact on traffic flows as the vehicle numbers are significantly less for the demolition phase of works, in comparison to the site operations. A listing of the anticipated vehicle numbers associated with each of the demolition is provided in Table 2. It is noted that CPG defines the AM peak as being between 0700-0900 and PM peak as being between 1600-1800 Monday to Friday, which is consistent with EIS defined AM and PM peaks.

Table 2: Indicative vehicle numbers

LV Staff	212	0	212	0	212	212
LV deliveries	2	2	4	2	2	4
HV	8	8	16	8	8	16





Vehicle Type						
LV Staff	16	0	16	0	16	0
LV deliveries	1	1	2	1	1	2
HV	2	2	4	2	2	4

# 3.3.2. Impact on public transport

There is no impact on public transport during these works.

#### 3.3.3. Impact on active transport users

The footpath on the southern side of Station Street between Lethbridge Street and Queen Street the footpath will remain as per existing conditions.

The footpath outside of the site on the northern side of Phillip Street will be closed for a period of approximately 3 weeks to facilitate the demolition of the St Marys Plaza shopping centre including the awning which overhangs the footpath, as noted on Figure 8. Post the façade removal, A-Class hoarding will be installed within the site boundary and the detour will be removed.



Figure 8: Awning and frontage of Station Plaza building

The proposed crossing points for the alternate route is via a pedestrian refuge island located to the east of Station Plaza private road and the recently completed raised pedestrian crossing at Lethbridge Street on Phillip Street. During the proposed detour, pedestrian access to 31 Phillip Street, at the eastern end of the site and businesses between Gidley Street and Queen Street will be maintained. All other properties between Lethbridge Street and East Lane are vacant properties.

The proposed alternate route provides a proximate route which complies with the relevant standards, refer to Figure 9 and Figure 10.









Figure 9: Existing pedestrian refuge island on Phillip Street west of Station Plaza private road to be used during northern footpath closure

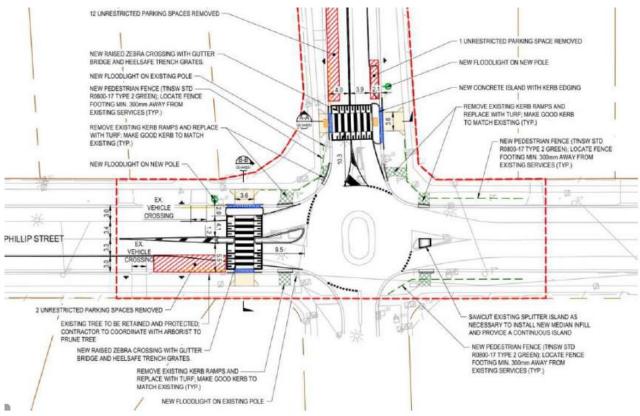


Figure 10: Advanced Enabling Works at Phillip Street and Lethbridge Street to be used during northern footpath closure

Signposting of this route is as per the Traffic Guidance Scheme provided in Appendix 1. The

Signposting of this route is as per the Traffic Guidance Scheme provided in Appendix 1. The proposed route is shown on Figure 11. Signs will be installed prior to closure of the existing path.









Figure 11: Proposed pedestrian diversion



## 3.3.4. Impact on property and utility access

Access to the resident properties will be retained during the demolition works. Access for utility providers/ maintainers will not be impacted. Access to businesses between Queen Street and Gidley Street will be maintained as will pedestrian access to the properties located east of the Station Plaza area.

#### 3.3.5. Cumulative impacts

Transport for Tomorrow is the only adjacent construction activity to these works.

# 3.4. Staff parking and transportation to site

It is anticipated that there will be 10-16 personnel on site. There will be ample room on site to cater for this demand.

# 3.5. Traffic Guidance Scheme/ Road Occupancy License identified works

Works that have been identified as requiring a Traffic Guidance Scheme (TGS) are listed below:

- 1. Traffic control during demolition works
- 2. Pedestrian management at site access/ egress locations
- 3. Pedestrian detour on Phillip Street

# 3.6. Required Council approvals

Works that have been identified as requiring Council approval include:

1. Footpath and parking lane occupation during demolition works







# 4. Fleet management

Trucks to be used for the delivery of the SBT works will be compliant with NSW legislation and standards including Heavy Vehicle National Legislation (HVNL). All heavy vehicle operations will be conducted in accordance with CPBG's Chain of Responsibility (CoR) Management Plan.

A combination of truck types will be used during the SBT works including single unit trucks, semi-trailers, truck and dog combinations and low loaders, for example.

There is sufficient room on site to provide for all heavy vehicles required for the works, therefore, marshalling facilities are not proposed for this site. Heavy vehicles will not idle on roads surrounding the site.

## 4.1. Road dilapidation report

Before any local road, ie: Phillip Street, Lethbridge Street, Station Street, is used by Heavy Vehicles, a Road Dilapidation Report will be prepared. A copy of that report will be provided to Penrith City Council within three (3) weeks of completion of the survey and no later than one (1) month before the road is used by Heavy Vehicles associated with the project.

If damage to roads occurs as a result of the construction of the project CPBG will either (at Penrith City Council's discretion):

- Compensate Penrith City Council for the damage so caused or
- Rectify the damage to restore the road to at least the condition it was in pre-work as identified in the Road Dilapidation Report

#### 4.2. Permits for Over Dimensional vehicles

Permits for vehicles greater than 4.5t are through the National Heavy Vehicle Regulator (NHVR). This applies to particular special purpose vehicles (SPV) such as mobile cranes and other oversize/ over mass (OSOM) vehicles. TfNSW is currently undertaking this permit issue.

For over dimensional vehicles generally vehicles that are greater than 25m in length of 3.5m wide require a pilot(s). Extremely long or wide vehicles will require an escort, fee payable. Permits ware generally applied for by the transport operator.

There is no requirement for over mass vehicles during the works identified in this CTMP.

# 4.3. Heavy Vehicle Local Road report

A Heavy Vehicle Local Road report will be provided to the Planning Secretary for approval, for use of local roads not identified in the EIS or other planning documents. This report includes the following:

- a) A swept path analysis
- b) Demonstration that the use of local roads by Heavy Vehicles for the CSSI will not compromise the safety of pedestrians and cyclists of the safety of two way traffic flow on two way roadways
- c) Details as to the date of completion of the road dilapidation surveys for the subject local roads and
- d) Measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child care facilities during their peak operation times and
- e) Written advice from an appropriately qualified professional on the suitability of the proposed Heavy Vehicle route which takes into consideration items a) to d)

A copy of the HVLR is provided in Appendix 5.





#### 5. Other matters

# 5.1. Road safety audits

Road safety audits will be undertaken during the development and implementation of the CTMP. The audits will be undertaken as noted in the section 10 of the Construction Traffic Management Framework. A copy of the road safety audit is provided in Appendix 3.

# 5.2. Communications and the community

CPBG will be responsible for the dissemination of information to the community including affected residents, relevant Councils, businesses and the public.

## 5.2.1. Proposed communications

Table 3 provides the proposed communications to be implemented for this CTMP.

Table 3: Proposed communications

Community Notice	Yes	Yes	Yes
Precinct update/ e-update	Yes	Yes	Yes
Email	Yes	Yes	Yes
Internet	Yes	Yes	Yes
Print advertising	No	No	No
Advance warning sign	No	No	No

# 5.2.2. Travelling public

Where the SBT works will impact on the travelling public, CPBG will undertake the following communications:

- Public transport interruptions will be communicated via on site signage
- Motoring public will be forewarned of any changes including road closures, road changes and lane changes well in advance using appropriate signs including Variable Message Signs (VMS)
- Active transport users will be provided with advance warning signs.





#### 5.3. Stakeholders

There are a number of stakeholders consulted during the development of this CTMP. A copy of their review comments are provided in Appendix 3. Table 4 provides an overview of the consultation undertaken for this CTMP.

Table 4: Consultation undertaken

Traffic and Transport Liaison Group	Presentation	7 <sup>th</sup> April 2022
Customer Journey Planning	Submission of CTMP	17 <sup>th</sup> May 2022
Sydney Metro project team	Submission of CTMP	17 <sup>th</sup> May 2022
Penrith City Council	Submission of CTMP	17 <sup>th</sup> May 2022
Customer Journey Planning	Resubmission of CTMP	14 <sup>th</sup> June 2022
Sydney Metro project team	Resubmission of CTMP	14 <sup>th</sup> June 2022
Penrith City Council	Resubmission of CTMP	14 <sup>th</sup> June 2022

#### 5.3.1. Traffic and Transport Liaison Group

The Traffic and Transport Liaison Group (TTLG) has been established by Sydney Metro Western Sydney Airport for the project, as required under MCoA E116. The TTLG consists of members from Sydney Metro Western Sydney Airport, Liverpool City Council, Penrith City Council, Customer Journey Planning, Western Sydney Airport Corporation (WSA Co), Western Parkland City Authority (WPCA), TfNSW's Planning and Program, other contractors associated with the project and Emergency Services.

Further development of this CTMP will occur in consultation with this group. It is noted that the TTLG meets monthly.

Supplementary analysis and modelling as required by Sydney Metro Western Sydney Airport and/ or the TTLG will be undertaken to demonstrate that construction traffic can be managed to minimise disruption to traffic network operations including changes to the management of pedestrians, cyclists and public transport networks and services. Any revised traffic management measures will be incorporated into the CTMP.

# 5.3.2. Traffic Control Group

The Traffic Control Group (TCG) has been established by Sydney Metro Western Sydney Airport for the project. The TCG consists of members from Sydney Metro Western Sydney Airport, Liverpool City Council, Penrith City Council, Customer Journey Planning, Western Sydney Airport Corporation (WSA Co), Western Parkland City Authority (WPCA), TfNSW's Planning and Programs and other contractors associated with the project. The TCG meets fortnightly.

The purpose of the TCG is for open and honest technical discussion on contractor proposed works methodologies and traffic management plans. The TCG will:

- Provide feedback on proposals;
- Guide CTMP and other document finalisation prior to submission for review/ approval;
- Guide coordination of works and traffic management activities on and off-airport (local, regional and state roads).
- Assist in transport impact mitigation.





# 5.4. Special events

When planning the works, CPBG will identify special events which directly impact the worksites or haulage activities and will continue to interrogate event websites that provide details on forthcoming events such as:

- NSW and Sydney Events <u>Destination NSW</u>
- NSW Events and Festivals <u>Visit NSW</u> and
- Upcoming Events Penrith City Council

#### 5.5. Training

CPBG will ensure that all personnel, including sub-contractors are aware of the specific requirements of TfNSW customers, general public, residents and businesses, prior to attending site through the induction process and regular updates through tool-box talks.

# 5.6. Inspections and monitoring

The site will be monitored by the site supervisor. Any changes to signs and lines that impact on the public will be recorded. Daily monitoring will be undertaken during site operating hours.

Traffic control used for pedestrian management, lane closures etc will need to provide records of the traffic control implemented. Any changes required to the traffic control set up will be authorised by a holder of a SafeWork NSW "Prepare a Work Zone Traffic Management Plan" or equivalent.

Checklists for monitoring of the implemented CTMP are provided in Appendix 6.

#### 5.7. Environmental maintenance

All works will be undertaken in accordance with the SBT works NSW Site Establishment Management Plan and associated procedures and the Construction Environmental Management Plan and associated sub plans. The SBT works are regulated by the NSW Environment Protection Authority and works to be undertaken outside of standard construction hours will need to comply with the requirements of the Environmental Protection License (EPL)

#### 5.8. Site contacts

Table 5 provides the contact details for the works identified in this CTMP

Table 5: Site contacts

Name		
Abbas Abbas	Project Manager	0402 114 114

#### 5.9. References

The following documents were used in the development of this CTMP

- Construction Traffic Management Framework Sydney Metro West and Sydney Metro Western Sydney Airport Construction
- Traffic Control at Worksites Manual v6
- Relevant AustRoads Guides and TfNSW Supplements
- Sydney Metro Principal Contractor Health and Safety Standards





## Appendix 1 TGS/ VMP/ PMP<sup>1</sup>

Table 6: TGS/ VMP/ PMP

WSA-TGS-A- PHI-ALL-0201	Phillip Street	Queen Street	Lethbridge Street	24 hour	Demolition and awning removal works	Pedestrian diversion/ footpath closure	Minimal impacts as diversion is via existing pedestrian refuge and newly constructed marked crossing platform at Lethbridge Street
CPBG- SMWSA-TYP- 0000-01	Gate locations	Various		When in use	Heavy vehicle access/ egress	Pedestrian management	Minimal impact as pedestrians are held only during access/ egress
WSA-TGS-A- STA-ALL-1001	Station Street	Lethbridge Street	Road closure	When in use	Heavy vehicle access from Station Street	Stop slow	Minimal impacts as traffic is typically local traffic on Station Street since the installation of the road closure (by others)

#### <sup>1</sup> Where relevant

CPB Contractors Ghella JV

Sydney Metro – Western Sydney Airport
Station Boxes and Tunnelling Works

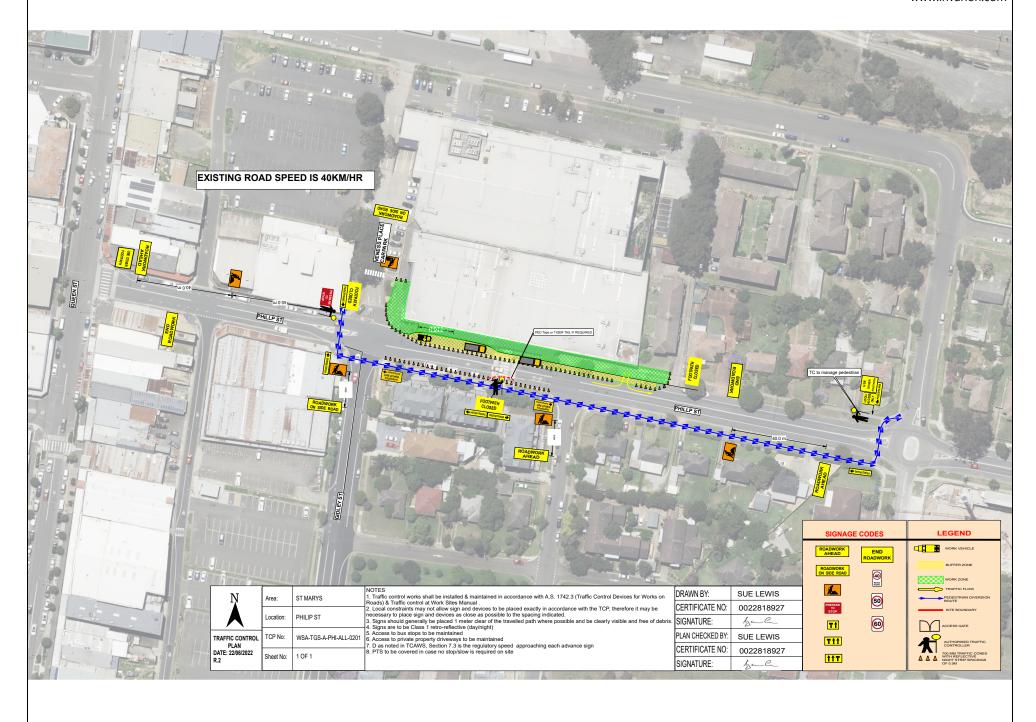
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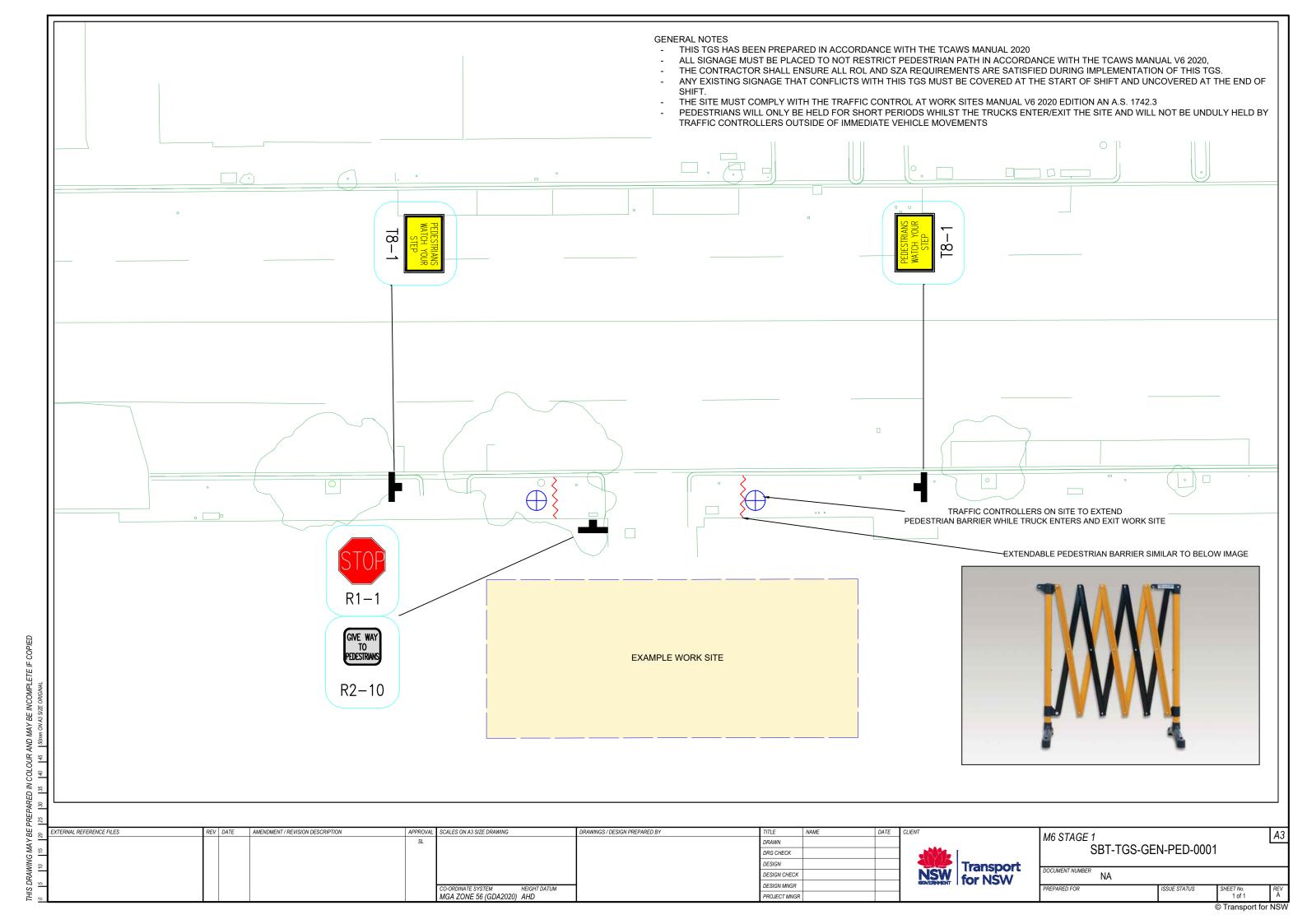


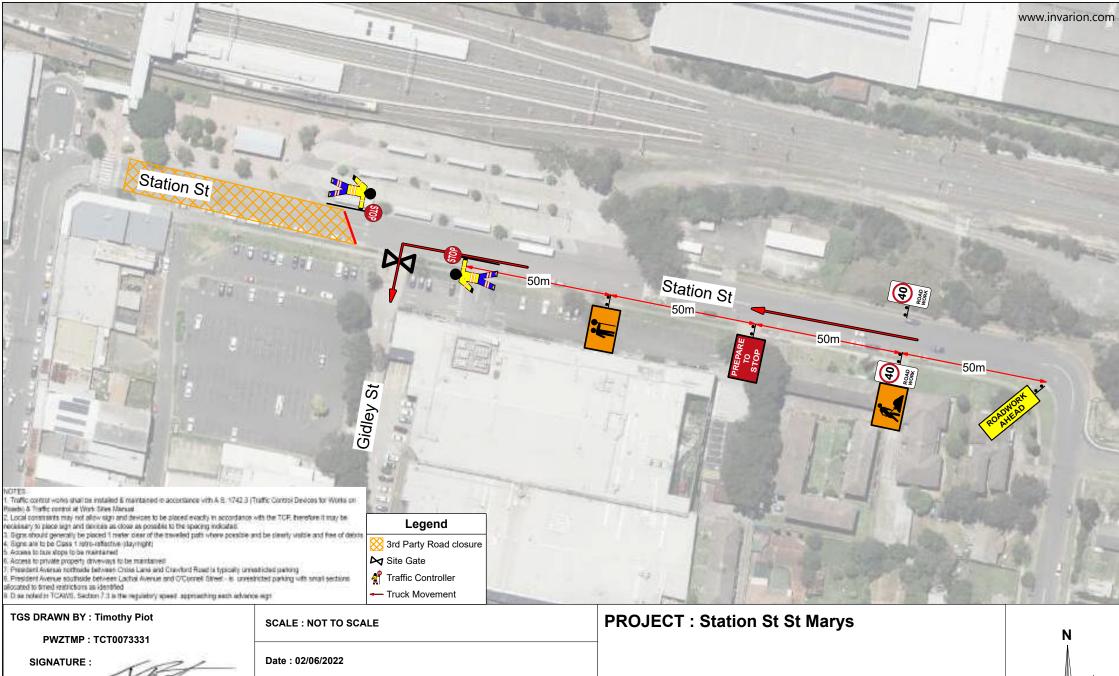
# **St Marys Demo CTMP**



CPB Contractors Ghella JV Sydney Metro – Western Sydney Airport Station Boxes and Tunnelling Works







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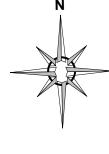
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SIGNATURE:

Issue: 1

SHEET NUMBER 1 of 1

TITLE: WSA-TGS-A-STA-AII-1001







# Appendix 2 Compliance Tables

Table 7: Ministerial Conditions of Approval

E103	Construction Traffic Management Plans (CTMPs) must be prepared in accordance with the Construction Traffic Management Framework. A copy of the CTMPs must be submitted to the Planning Secretary for information before the commencement of any construction in the area identified and managed within the relevant CTMP	This plan and section 2
E105	Local roads proposed to be used by Heavy Vehicles to directly access ancillary facilities/construction sites that are not identified in the documents listed in Condition A1 must be approved by the Planning Secretary and be included in the CTMP	Section 4.3 and Appendix 5
E106	All requests to the Planning Secretary for approval to use local roads under Condition E105 above must include the following:  a) A swept path analysis b) Demonstration that the use of local roads by Heavy Vehicles for the CSSI will not compromise the safety of pedestrians and cyclists of the safety of two way traffic flow on two way roadways c) Details as the date of completion of the road dilapidation surveys for the subject local roads and d) Measures that will be implemented to avoid where practicable the sue of local roads past schools, aged care facilities and child care facilities during their peak operation times and Written advice from an appropriately qualified professional on the suitability of the proposed Heavy Vehicle route which takes into consideration items a) to d) of this condition	Section 4.3 and Appendix 5
E107	Before any local road is used by a Heavy Vehicle for the purposes of construction of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the Relevant Road Authority(s) within three (3) weeks of completion of the survey and at no later than one (1) month before the road being used by Heavy Vehicles associated with the construction of the CSSI	Section 4.1
E108	If damage to roads occurs as a result of the construction of the CSSI, the Proponent must either (at the Relevant Road Authority's discretion):  a) Compensate the Relevant road Authority for the damage so caused or	Section 4.1







MCoA#		
	Rectify the damage to restore the road to at least the condition it was in pre-work as identified in the Road Dilapidation Report	
E109	Vehicles associated with the project workforce (including light vehicles and Heavy Vehicles) must be managed to:	Sections 3.4 and 4
	a) Minimise parking on public roads	_
	b) Minimise idling and queuing on state and regional roads	Section 4
	<ul> <li>Not carry out marshalling of construction vehicles near sensitive land use(s)</li> </ul>	Section 4
	d) Not block or disrupt access across pedestrian or shared use paths at any time unless alternative access is provided and	Section 3.3.3
	e) Ensure spoil haulage vehicle adhere to the nominated haulage routes identified in the CTMP	Appendix 5
E110	Access to all utilities and properties must be maintained during works unless otherwise agreed with the relevant utility owner, landowner or occupier	Section 3.3.4
E111	The proponent must maintain access to properties during the entirety of the works unless an alternative access is agreed in writing with the landowner(s) whose access is impacted by the CSSI works	Section 3.3.4
E112		
E113	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless agreed by the landowner or occupier. Property access must be reinstated within one (1) month of the work that physically affected the access is completed or in any other timeframe agreed with the landowner or occupier	
E114	During construction, all reasonably practicable measures must be implemented to maintain pedestrian, cyclist and vehicular access to, and parking in the vicinity of businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be avoided, alternate pedestrian, cyclist and vehicular access, and parking arrangements must be developed in consultation with affected businesses and landowners and implemented before the disruption.	Section 3.3.3







	Adequate signage and directions to businesses must be provided before, and for the duration of any disruption	
E115	Safe pedestrian and cyclist access must be maintained around the St Marys construction site during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternate route which complies with the relevant standards, must be provided and signposted before the restriction or removal of the impacted access	Section 3.3.3
E116	A Traffic and Transport Liaison Group(s) must be established in accordance with the Construction Traffic Management Framework to inform the development of the CTMP	Section 5.3.1
E117	Supplementary analysis and modelling as required by TfNSW and/ or the Traffic and Transport Liaison Group(s) must be undertaken to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations, including changes to and the management of pedestrian, bicycle and public transport networks, public transport services and pedestrian and cyclist movements. Revised traffic management measures must be incorporated into the CTMP	Section 5.3.1

Table 8: Revised Environmental Management Measures

T1	Construction Traffic Management Plans would be prepared in accordance with the Construction Traffic Management Framework	This Plan
T2	The Construction Traffic Management Plan for St Marys would be developed in consultation with the Traffic and Transport Liaison Group to ensure existing transport interchange infrastructure continues to operate effectively within the St Marys station precinct	Section 5.3.1
Т3	Coordination with Western Sydney Airport and Transport for NSW would be undertaken through the Traffic and Transport Liaison Group to manage potential cumulative construction traffic impacts with M12 Motorway and Elizabeth Drive	Section 5.3.1
T4	Road Safety Audits would be carried out to address vehicular access and egress, and pedestrian, cyclists and public transport safety. Road Safety Audits would be carried out as per the guidelines outlined in Section 10 of the Construction Traffic Management Framework.	Section 5.1







T5	Maintain access for pedestrians and cyclists around construction sites as per the guidelines outlined in the Construction Traffic Management Framework. Appropriate signage and line marking would be provided to guide pedestrians and cyclists past construction sites and on the surrounding network to allow access be maintained	Section 3.3.3
Т6	Access for construction vehicles to be planned as per the guidelines outlined in the Construction Traffic Management Framework. Construction site traffic would be managed to minimise movements during peak periods. Vehicle access to and from construction sites would be managed to maintain pedestrian, cyclists and motorist safety	Section 4
T7	Temporary relocation of bus stops and the bus layovers at the Station Street car park in St Marys would be implemented prior to the commencement of construction works that impacts on the existing bus facilities. The temporary relocation of bus stops and the bus layover at St Marys would be carried out in consultation with the Transport for NSW, Penrith City Council and bus operators. Wayfinding and customer information would guide customers to temporary bus stop locations.	Not required for this CTMP
Т8	Transport for NSW would be consulted to discuss opportunities for their delivery of intersection upgrades at Mamre Road/ M4 Western Motorway on and off ramps prior to the peak year of construction	TfNSW is the responsible entity
Т9	A construction worker car parking strategy for St Marys would be prepared in consultation with Penrith City Council and Transport for NSW prior to the commencement of construction. The strategy would seek to:	In development
	<ul> <li>Minimise overall demand for construction worker car parking through initiatives such as use of other project construction worksites in combination with shuttle buses, carpooling and encouraging the use of public transport</li> <li>Minimise potential use of on street ca parking by construction workers</li> </ul>	
	The construction worker car parking strategy would be implemented throughout construction	







Appendix 3 Road Safety Audit



# **Road Safety Audit Report**



# Sydney Metro Western Sydney Airport Station Box and Tunneling Package

Road/Area	Station Street, Gidley Street, Phillip Street, Lethbridge Street and Glossop Street, St Marys	Road Safety Au
Traffic Stage/Phase	St Marys Site Establishment	Report Date
Audit Stage	Desktop Traffic Guidance Scheme	Lead Auditor Second Auditor
Client		TMP / Drawings
Client Contact		Report Provider

Road Safety Audits Reference	RSA-12553A
Report Date	8 June 2022
Lead Auditor Second Auditor	
TMP / Drawings	St Marys Site Establishment CTMP, Doc. No.:SWMSASBT-CPG-STM-TF-PLN-000001, Rev A.01, Date May 2022.
Report Provider	Road Safety Audits

**Desktop TGS General Scope**: The scope of the audit is to assess the plans on their merits and in the context of the road environment, with standards and guidelines as a reference.















	Sydney Metro Western Sydney Airpo	ort Station Box and Tunneling P	ackage St Marys Site Establish	ıment
	Audit Point	Treatment Option	Responder: Response <sup>x</sup>	Status <sup>y</sup>
Gene	eral			
1.	Fencing on Water Filled Barrier Legend in drawing number 22063CAD002, Figure 1 indicates the use of RMS approved water filled barrier with fence (where required adjacent to public footpaths) – (dark blue line). It should be noted that water filled barriers are not crash tested with fencing and as such it may not function as intended. It is also unclear from the drawing as to where the fencing will be installed as there is a light blue line which is also shown to be fencing.	Clarify where fencing will be installed and avoid installation on top of water filled barrier.  Risk: Low given that operating speeds on the subject roads will be very low.	Drawing amended	Closed
OF	ASIDE FOOTPATH REMAINS PEN, DESPITE CLOSURE OF STATION STREET  FOOTPATH (1.5m WIDE)	WS-334  WEHICLES EXCEPTED  CONSTRUCTION AND THE CON		



	Sydney Metro Western Sydney Airpo	ort Station Box and Tunneling P	ackage St Marys Site Establishr	ment
	Audit Point	Treatment Option	Responder:	4
			Responsex	Status <sup>y</sup>
Spec	ific Findings			
2.	No road safety issues are identified on the following TGS's:	Nil. Note only.	Noted	Closed
	WSA-TGS-A-STA-All-1001;	Risk: N/A		
	WSA-TGS-LET-NB-2201 & 2201;			
	WSA-TGS-A-STA-WB-0201;			
	WSA-TGS-A-CHE-ALL-1201;			
	WSA-TGS-LM-01;			
	WSA-TGS-A-STA-EB-0210;			
	WSA-TGS-A-PHI-ALL-1202, 1203 & 1205;			
1	SBT-TGS-GEN-PED-0001;			
	PWZTMP 0022818927; and;			
	WSA-TGS-A-GID-ALL-0001-Road closure and detour			
				•
WSA-	TGS-A-HOB-ALL-0201			
3.	Lane Merge	Review and include measures to clearly	TGS amended	Closed
	There are no lane status signs advising drivers of the	define the kerbside lane termination and		
	termination of the kerbside lane and no physical merge	merge.		
	taper on Glossop Street southbound.	Risk: Low to Medium		
	CONTRACTOR OF STATE O	ROADING READ AND AND AND AND AND AND AND AND AND A		



	Audit Point	Treatment Option	Responder:	i
			Responsex	Status <sup>y</sup>
4.	Turning Movement It appears restrictive for trucks to be able to turn left out of Hobart Street as a result of cones being proposed along the lane line.	Review and confirm that the expected design vehicle will be able to turn left without coming in contact with the cones.	Note added to TGS that traffic cones may need to be removed depending on swept path required	Closed
		Risk: Low		
W.S. A.				
	-TGS-A-STA-ALL-1201			
i.	No pedestrian detour and associated signage is shown for pedestrian to be directed past the work zone and footpath closure.	Review and include suitable measures for pedestrians to bypass the work area.  Risk: Low	The footpath will remain available for pedestrians – signs installed	Closed



	Sydney Metro Western Sydney Airpo	Treatment Option	Responder:		
	Addit of the	nedimeni Opilon	Response <sup>x</sup>	Status <sup>y</sup>	
VSA-	TGS-A-GOS-NB-0201				
	Lane Merge There are no lane status signs advising drivers of the termination of the kerbside lane and no physical merge taper on Glossop Street northbound.	Review and include measures to clearly define the kerbside lane termination and merge.  Risk: Low to Medium	Signs installed	Closed	
		No. Oracle Control of the Control of			



### **Explanatory Notes**

**Short Format**: This 'short format' report has been pioneered by RSA (Road Safety Audits) since 2008, initiated through requests by clients to assist their processes, for ease with stakeholders, and for timeliness. It is typically confined in use to construction traffic management and typically for discrete packages of plans / areas and often for large projects with repetitious small audit sections. The use of this format assumes that the reader/s know what a road safety audit is and how to respond to it.

**Projects:** Audit points are often raised in projects in relation to: 1. specific themes (e.g. the use of a safety barrier type), or 2. the treatment of particular locations. Once key issues have been initially raised, they will not necessarily be re-raised in future audits. This will depend on the issue, the RSA's perception of the client's assessment and understanding of the issue, and other factors. Therefore, discrete audits as part of a project should be read and actioned by a **project representative who is familiar with the audit history**.

**Responding**: Although the client receiving the report does not have to agree to the audit findings/suggestions, the issues and associated risks should be carefully considered. A written response should be made to all of the audit findings raised, then signed off by the responsible person from the project team.

\*Response: The responder should focus on and consider the audit point, regardless of whether the audit team's suggested treatment option is feasible / appropriate / agreed to.

YStatus: The status of the issue as it sits with the Project. i.e. 'actioned', 'closed', 'pending information / further guidance'.

#### Language:

Austroads Road Safety Audit Part 6 suggests that the organisation responding to the audit provides a risk assessment. However, RSA will at times offer a guide of 'high' 'medium' and 'low' risk, which is based on a professional appraisal of the risk ('severity' and 'frequency') for the responder to use as a guide. Other language commonly used and its intent is as follows:

- o 'Urgent': Needs immediate attention / changes as per RSA suggestion or similar.
- o 'Recommend' / 'Serious' / 'Important': Must be robustly reviewed. Most likely requires a change to avoid a high-risk road environment for one or more user groups.
- o 'Should' / 'Suggest' / 'Significant': Based on the view of the RSA team the suggestion should be done but it concedes that there could be reasons why inaction or alternative action may be preferred.

  Must be robustly reviewed by contractor and where relevant with key traffic engineering project stakeholders.
- o 'Review' / 'Consider': RSA is raising an observation but has no strong opinion on the outcome and need for changes. Project should review because it's not an immediate and high risk and may not be immediately obvious to RSA the reasons for the practice / setup / behaviour. May need monitoring.
- o 'Minor': Typically a low road-safety consequence / compliance issues (to guidelines or plans) / administrative controls. Unlikely to increase risk of crash.
- o 'Note': Little or no road safety significance. Typically added to give a complete picture of the design site context analysis auditors understanding.

**Intent of Issues Listing Order**: Audit points might be clustered according to location, theme, or time. When this is not done and the audit comprises an uncategorised list of points, the key issues are often discussed first. However, there is no official ordering of points, and they should all be read on their merits and on the basis of the language guide above.

**References**: 1. Austroads Guide to Road Safety – Road Safety Audit – (2019) 6 and 6A; 2. AS 1742.3 – 2019; 2. State specific codes and guidelines re: Traffic Control at Work Sites; and 3. Design: 1. Austroads guidelines and 2. state-specific supplements and technical publications as relevant.

Safe System: Austroads GRS-RSA6A encourages practitioners to adopt safe system principles within the road safety audit. Safe system (roads) calls for a design to not allow serious injury and fatalities to occur for the expected road users and the typical crash types expected for that design type. This design-objective is considered within this road safety audit as a good practice objective. However, in practice, safe system-based analysis of risks and treatment options is typically not adopted for traffic management stage audits in the same way as it is in design stage audits.

**Process and Quality:** RSA's quality assurance process is based on its senior auditors having a rich experience base, but also utilises customised checklists designed for niche areas in traffic engineering/road design (e.g. safety barriers, pavement shaping, CBD traffic management), in conjunction with a four-layer audit process: 1. on-site inspection; 2. media and data capture and review; 3. specialist / second auditor input; and (where warranted) 4. secondary blinded reviews.

**Audit Coverage**: The audit has attempted to balance the safety needs of all road users. As per Austroads guidelines, the suggestions provided have attempted to be realistic/feasible and commensurate with the actual risk posed. Suggestions are made from a safety perspective only, and are made in the absence of full project knowledge and design constraints. RSA can provide a detailed risk assessment / issue evaluation report upon request. The audit raises potential safety risks noted / observed / anticipated by the audit team, and in particular the higher-risk issues. However, a road safety audit is undertaken by people, highly influenced by the experience, views and limitations of the individual team members. It is expected that the project team has competence to identify safety issues itself as the project progresses, and to ask the audit team further questions where necessary.





Appendix 4 Review comments





Appendix 5 Heavy Vehicle Local Road report

(Provided separately)









Appendix 6 Inspection checklists

## E.4 Shift / Daily TTM inspection checklist

Shift Inspections must be undertaken by a person holding the PWZTMP or ITCP qualification when a TGS is installed, changed or updated, to ensure the TGS is implemented as designed. This includes at a minimum, twice per shift (recommended every 2 hours). This form can also be used for inspecting 'Aftercare' arrangements.

Completed by:						
Name:			Signature:			
TMP Reference:			TGS Reference:			
				Inspection 1	Inspection 2	Inspection 3
Date:			Time/s	00-00	00-00	00-00
Drive through TGS in	spec	tion		Inspection 1	Inspection 2	Inspection 3
Have any adjustments	oeen I	made to the approv	ved TGS?	□ Yes	□ Yes	□ Yes □ No
If yes, provide de	tails:		n tolerances? st be reviewed by a PWZTMP	☐ Yes	☐ Yes	☐ Yes
		Have changes bee	n approved?	□ Yes	☐ Yes	□ Yes
			If no, TGS must be approved	□ No	□ No	□ No
Comments or do						
Have all signs and devi	ces b	een installed in ac	cordance with			
approved TGS?				☐ Yes	☐ Yes	☐ Yes
		lf no, į	provide detail of action taken	□ No	□ No	□ No
Comments or done of action to						

Drive through TGS inspec	tion	Inspection 1	Inspection 2	Inspection 3
Are PTCD positioned as pres	cribed in TGS?	☐ Yes	☐ Yes	☐ Yes
	lf no, provide detail of action taken	□ No	□ No	□ No
		□ N/A	□ N/A	□ N/A
Comments or details of action taken:				
Are manual traffic controllers escape route?	s clear of travel lane, have suitable	☐ Yes	☐ Yes	☐ Yes
•	vide detail and reposition manual traffic controllers	□ No	□ No	□ No
		□ N/A	□ N/A	□ N/A
Comments or details of action taken:			,	
Are sign and devices in good	d condition, clearly visible to road users?	☐ Yes	☐ Yes	☐ Yes
	If no, provide detail of action taken	□ No	□ No	□ No
Comments or details of action taken:				
Are all signs mounted level a	ind suitably clear of travel lanes?	☐ Yes	☐ Yes	☐ Yes
	If no, provide detail of action taken	□ No	□ No	□ No
Comments or details of action taken:				
Are conflicting or non-applic	able signs covered or removed?	☐ Yes	☐ Yes	☐ Yes
	If no, provide detail and remove or cover signs	□ No	□ No	□ No
		□ N/A	□ N/A	□ N/A
Comments or details of action taken:			1	1
action taken.				

Drive through TGS inspec	tion	Inspection 1	Inspection 2	Inspection 3
Is temporary delineation inst forming taper?	alled as prescribed i.e. straight line	☐ Yes	☐ Yes	☐ Yes
Torrining taper:	If no provide details and rectify delineation	□ No	□ No	□ No
Comments or details of action taken:				
Have site conditions change	d due to shade, park vehicles, glare etc.	□ Yes	☐ Yes	☐ Yes
	If yes provide details and note if action is required	□ No	□ No	□ No
Comments or details of action taken:				
Are registered trailers i.e. VN lanes and delineated?	IS / light towers; suitably clear of travel	☐ Yes	☐ Yes	☐ Yes
and demicated:	If no provide details and rectify location	□ No	□ No	□ No
		□ N/A	□ N/A	□ N/A
Comments or details of action taken:				
Are temporary speed zones	operating as prescribed?	☐ Yes	□ Yes	☐ Yes
If n	o provide details and discuss with work supervisor	□ No	□ No	□ No
		□ N/A	□ N/A	□ N/A
Comments or details of action taken:				
Are workers on foot / plant c	learances been applied / observed?	☐ Yes	☐ Yes	☐ Yes
If I	no provide details and implement controls to rectify	□ No	□ No	□ No
		□ N/A	□ N/A	□ N/A
Comments or details of action taken:				

Post drive through confirm	Inspection 1	Inspection 2	Inspection 3	
	ity and operating safely as intended?  o provide details and implement controls to rectify	□ Yes □ No	□ Yes	□ Yes □ No
Comments or details of action taken:				
Is TGS is appropriate for the	current traffic conditions?	☐ Yes	☐ Yes	☐ Yes
If no	o provide details and implement controls to rectify	□ No	□ No	□ No
Comments or details of action taken:				
	ified in TGS been addressed? i.e. end-	□ Vaa	□ Vaa	□ Vaa
of-queue management	details of additional hazards and controls required	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
II no provide (	details of additional nazards and controls required			
Comments or details of action taken:				
Additional comments:				

# E.5 Post completion inspection checklist

Completed by:			
Name:		Road name/Staging Plan number:	
Signature:		Data (Airean	
ITCP or PWZTMP card number		Date / time:	
Drive through post completed ins	pection		
Item		Comments / Action	
Have all work activities been	□ Yes		
completed?	□ No		
Has all plant and equipment been	☐ Yes		
removed?	□ No		
Have all TTM signs and devices been	☐ Yes		
removed?	□ No		
Has all TTM linemarking been	☐ Yes		
obliterated?	□ No		
Have existing permanent speed limits	☐ Yes		
been reinstated?	□ No		
Have all TTM site hazards been	☐ Yes		
removed?	□ No		
	☐ Yes		
Other	□ No		

Desktop post completion inspecti	on
Have all TGSs for completed tasks	□ Yes
been retained?	□ No
Have all TMP required documents	□ Yes
been placed in relevant folders?	□ No
Has TMP/TGS designer requested addition information post TTM	□ Yes
removal?	□ No
Is the road safe for opening to road	□ Yes
users?	□ No
Additional comments:	

## E.3 Weekly TTM inspection checklist

Weekly inspections must only be carried out by a PWZTMP qualified person. Weekly inspections must be carried out when a site is first open and at least once every week thereafter.

Completed by:				
Name:		Signature:		
TMP Reference:		TGS Reference:		
Date:		Inspection type	☐ Pre-opening	☐ Weekly
Desktop review				
Is a copy of the location TMP	and relevant TGS ava	nilable?		☐ Yes
	If no insp	ection must not be undertal	ken until documents are	
Details of TMP and TGS:				
Are the location TMP and rele	vant TGS approved?	If no, work must be stopp	ed until documents are	☐ Yes
Comments or details of action taken:				
Site Inspection				
Inspection completed:	□During the day	☐During the night		
Signs and devices positioned	as prescribed and co	_	o provide details and rec	☐ Yes☐ No
Comments or details of action taken:				

Site Inspection				
Sign sizes as prescribed?		☐ Yes		
	If no provide details and rectify signs	□ No		
Comments or details of action taken:				
Signs are mounted level and	suitably clear of travel lanes?	☐ Yes		
	If no provide details and rectify signs	□ No		
Comments or details of action taken:				
Has temporary delineation be	een applied as prescribed, with permanent markings obliterated?	☐ Yes		
	If no provide details of action required to rectify delineation	□ No		
Comments or details of action taken:				
Are registered trailers i.e. VMS / light towers; suitably clear of travel lanes and delineated?  ☐ Yes				
	If no provide details and rectify location	□ No		
Comments or details of action taken:				
Are temporary speed zones of	perating as prescribed?	☐ Yes		
	If no provide details and discuss with work supervisor	□ No		
Comments or details of action taken:				
Are PTCD positioned as pres	cribed in TGS?	☐ Yes		
	If no provide details of action required to rectify	□ No		
Comments or details of action taken:				

Site Inspection				
Are manual traffic controllers clear of travel lane, have suitable escape route?				
	If no provide details of action required to rectify	□ No		
Comments or details of action taken:				
Are site accesses and egress	ses well defined and safe for work vehicles?	☐ Yes		
	If no provide details of action required to rectify	□ No		
Comments or details of action taken:				
Termination signs are suitab	y located? i.e. D downstream of last activity.	☐ Yes		
	If no provide details of action required to rectify	□ No		
Comments or details of action taken:				

Post site inspection confirmation	on Control of the Con	
Is worksite layout operating safely a	as intended?	
	If no provide details and implement controls to rectify	☐ Yes ☐ No
Comments or details of action taken:		
Has TMP identified and addressed l	key TTM risks?	☐ Yes
	If no provide details and implement controls to rectify	□ No
Comments or details of action taken:		
Have key TTM risks been addressed	d on site?	☐ Yes
	If no provide details of additional hazards and controls required	□ No
Comments or details of action taken:		
Have copies of Shift Inspections be	een sighted as completed as required?	
If r	no provide details and discuss with nominated rep completing Shift Inspections	□ Yes □ No □ N/A
Comments or details of action taken:		
Additional comments:		

chnical Manual – Traffic control at work sites





## Appendix 7 Swept Paths

22063CAD006 Figure 1	Glossop Street onto Phillip Street	Yes	12.5m Single Unit truck
22063CAD006 Figure 2	Phillip Street onto Lethbridge Street	Yes	12.5m Single Unit truck
22063CAD006 Figure 3	Lethbridge Street onto Station Street	Yes	12.5m Single Unit truck
22063CAD006 Figure 3	Station Street onto Gidley Street (private road located within Station Plaza)	Yes	12.5m Single Unit truck
22063CAD006 Figure 5	Gidley Street (private road located within Station Plaza) onto Phillip Street	Yes	12.5m Single Unit truck



