Construction Traffic Management Plan - St Marys Station

SMWSASSM-PLD-STM-TF-PLN-000001

Parklife Metro D&C

Approval Record

Revision	Author	Date	Issue	Reviewed by	Approved by
A	**Wendy Zheng** Traffic Manager	26/07/2023	First Issue	**Discipline Leads**	**Richard Graham** Project Director
B	**Wendy Zheng** Traffic Manager	25/08/2023	Second Issue	**Discipline Leads**	**Jose Sanchez** Project Director
C	**Wendy Zheng** Traffic Manager	08/09/2023	Third Issue	**Discipline Leads**	**Jose Sanchez** Project Director
0	**Wendy Zheng** Traffic Manager	27/09/2023	Final Issue / IFI	**Discipline Leads**	**Jose Sanchez** Project Director
01	**Dora Choi** Traffic Planning	03/04/2024	First Revision	**Discipline Leads**	**Jose Sanchez** Project Director
Signature					

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Amendment Record

Date	Revision	Version	Amendment Description
26/07/2023	A	1	First Issue
25/08/2023	B	1	Second Issue
08/09/2023	C	1	Third Issue
27/09/2023	0	1	Final Issue / IFI
25/03/2024	01	1	Tower Crane Erection Addendum Issue
03/04/2024	01	1.02	Amendment to exclusion zone, TGSs and work date / contingency date for Tower Crane Erection

Details of Revision Amendments

Document Control

The Management Plan's owner Director or his/her delegate is responsible for updating this plan to reflect changes to the project, construction, legal and other requirements, as required.

Plan Authorisation

The implementation and distribution of this Management Plan is under the authority of the Project Director. All personnel employed on the Project will perform their duties in accordance with the requirements of this Management Plan, supporting management plans and related procedures.

Amendments

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

Glossary

Acronym	Description
AGRD	Austroads Guide to Road Design
AGTM	Austroads Guide to Traffic Management
AGTTM	Austroads Guide to Temporary Traffic Management
Council	Penrith City Council
CTMF	Sydney Metro Construction Traffic Management Framework
CTMP	Construction Traffic Management Plan
DA	Development Application
DCP	Development Control Plan
DoS	Degree of Saturation
DPE	Department of Planning and Environment
FSM	Footbridge St Marys Station
HRV	Heavy Rigid Vehicle (as defined by AS2890.2:2018)
LEP	Local Environmental Plan
LGA	Local Government Area
LoS	Level of Service
MRV	Medium Rigid Vehicle (as defined by AS2890.2:2018)
NHVR	National Heavy Vehicle Regulator
ONRSR	Office of the National Rail Safety Regulator
OSOM	Oversize and/or overmass (OSOM) vehicles
RIM	Rail Infrastructure Manager
RRV	Road Rail Vehicles
RSO	Rolling Stock Operator
SCAW	Surface and Civil Alignment Work
SBT	Station Boxes and Tunnelling

SMF	Stabling and Maintenance Facilities
SMSWA	Sydney Metro Western Sydney Airport
SRV	Small Rigid Vehicle (as defined by AS2890.2:2018)
SSTOM	Stations, Systems, Trains, Operations and Maintenance
STM	St Marys Station
TCAWS	Traffic control at work sites Technical Manual (version 6.1:2022 or the latest)
TGS (TCP)	Traffic Guidance Scheme (formerly known as Traffic Control Plan)
TfNSW	Transport for New South Wales
veh/hr	Vehicle movements per hour (1 vehicle in & out = 2 movements)

1 Introduction

This site-specific Construction Traffic Management Plan (CTMP) is created as per the Sydney Metro Construction Traffic Management Framework (CTMF), the general specifications of the Project and Overarching Construction Management Plan – Sydney Metro Western Sydney Airport.

The scope of this CTMP is to detail the traffic and transport impacts and management measures associated with the traffic management stages required to facilitate the construction of the St Marys Station (STM).

This site will have four handover stages in order to accommodate SBT's stub tunnel works, TBM retrieval and Laing O'Rourke's footbridge construction works (FSM).

The details of handover stages 1, 2 and SSTOM operations in stage 4 will be covered in this CTMP. Stage 3 TBM retrieval works will be covered in the SBT St Marys CTMP update and details of FSM operations in Stage 4 will be covered in the Laing O'Rourke FSM CTMP.

This CTMP and the documents referenced in the CTMP have been prepared in accordance with the relevant standards and guidelines listed in the SSTOM Overarching Construction Traffic Management Plan (SMWSASSM-PLD-1NL-PLN-000071).

This plan has been prepared to meet the following requirements including Condition E103 of the SSI 10051 Infrastructure Approval and will be submitted to the Planning Secretary of the NSW Department of Planning and Environment for information.

- Environmental Impact Statement (EIS) of Sydney Metro Western Sydney Airport – Technical Paper 1 - Transport Mitigation Measures
- EIS Construction Traffic Management Framework
- Conditions of Approval (CoA) for the State Significant Infrastructure (SSI 10051)

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

- Wendy Zheng Ticket No. TCT1015144

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

- Dora Choi Ticket No. TCT0021456

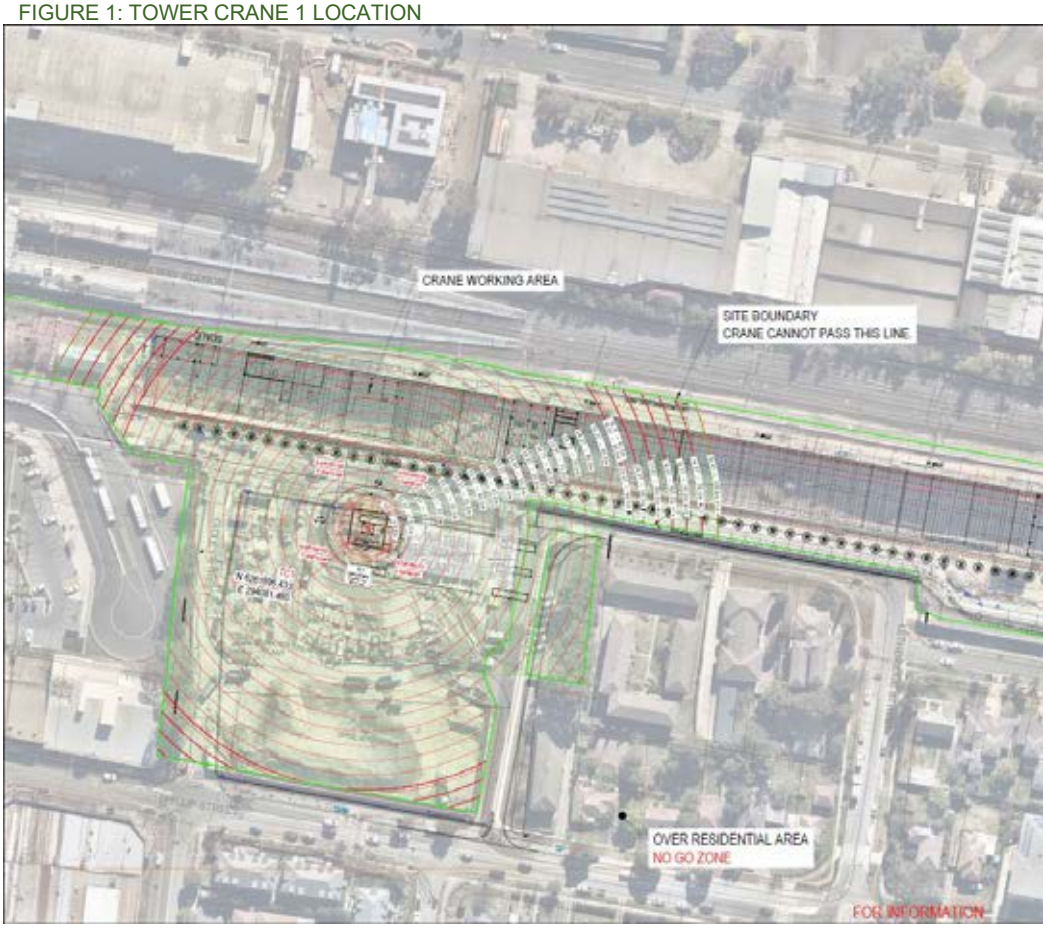
This Construction Traffic Management Plan has been prepared to meet the requirements outlined in Appendix A and Appendix E, Section E.2 of the Transport for NSW Traffic Control at Work Sites Technical Manual (Issue No. 6.1, 2022).

TABLE 1: DOCUMENT CHANGES / UPDATES

Date	Section	Original Text	Changes Made (new / additional text in green)
18/03/2024	4.6	Nil	**Tower Crane Installation Works** Two tower cranes adjacent to the station boxes are required to support on-site construction beyond Stage 2 Piling and Base Slab works.

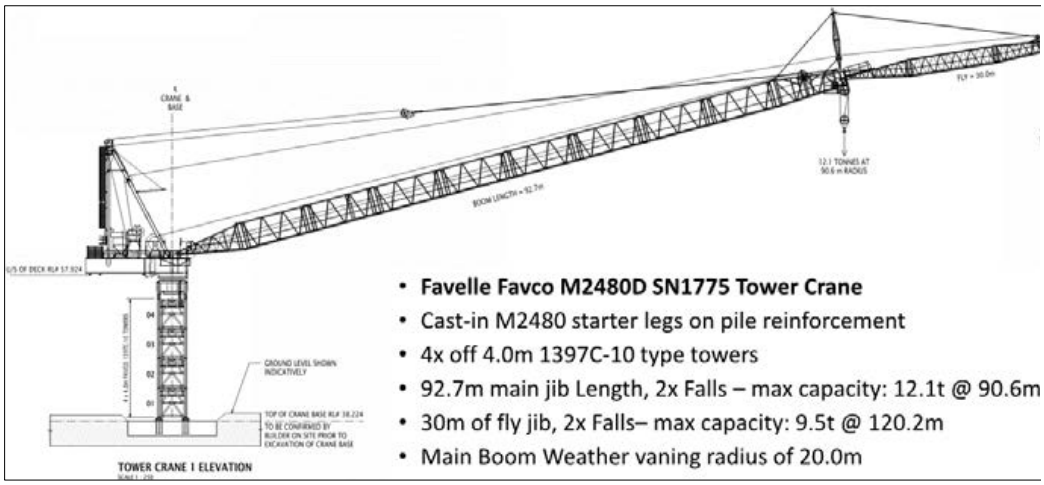
Tower Crane 1 (TC1) will be located south of the Station Box, within A-TA3, detailed in Figure 17.

FIGURE 1: TOWER CRANE 1 LOCATION



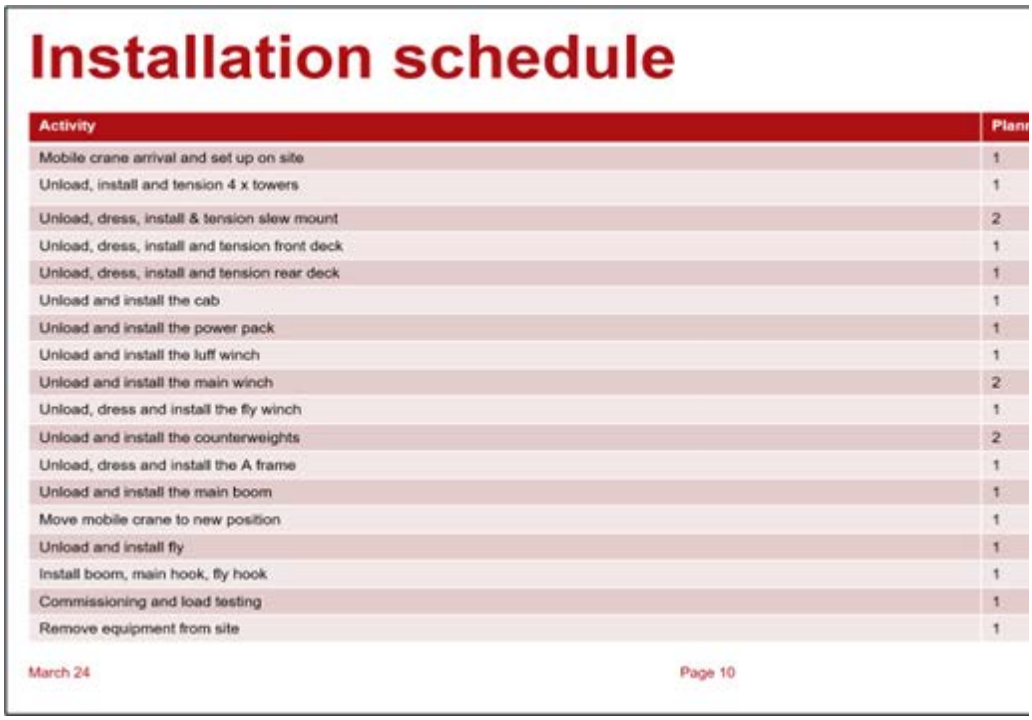
Details of tower crane 1 to be installed are provided in Figure 18.

FIGURE 2: TOWER CRANE OVERVIEW (TC1)



A work schedule is provided in Figure 19 for the tower crane 1 installation works.

FIGURE 3: TOWER CRANE 1 INSTALLATION SCHEDULE



Installation schedule

Activity	Plann
Mobile crane arrival and set up on site	1
Unload, install and tension 4 x towers	1
Unload, dress, install & tension slew mount	2
Unload, dress, install and tension front deck	1
Unload, dress, install and tension rear deck	1
Unload and install the cab	1
Unload and install the power pack	1
Unload and install the luff winch	1
Unload and install the main winch	2
Unload, dress and install the fly winch	1
Unload and install the counterweights	2
Unload, dress and install the A frame	1
Unload and install the main boom	1
Move mobile crane to new position	1
Unload and install fly	1
Install boom, main hook, fly hook	1
Commissioning and load testing	1
Remove equipment from site	1

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Installing the boom, main hook, fly hook requires the closure of Phillip Street between Lethbridge Street and Gidley Street, Access Road A, and Blair Avenue between Ross Place and Phillip Street. This road closure is required due to the combined total length of the boom and fly, the type of mobile crane required, space required and the position of the mobile crane relative to the lifting load to maintain a safe lifting operations. This is demonstrated in Figure 20.

FIGURE 4: SET UP FOR INSTALLATION OF BOOM, MAIN HOOK AND FLY HOOK FOR TOWER CRANE 1

The work requiring road closures is expected to take a day to complete and is proposed to occur on Sunday, 21 April 2024. However, because the work is weather-dependent (i.e., it cannot proceed due to rain, wind, or atmospheric conditions deemed unsuitable or unsafe for the work), a contingency date of Sunday, 12 May 2024, is proposed. The work is estimated to take one shift.

To facilitate the works proposed, the work area will be fully closed to traffic, with vehicular traffic and pedestrian traffic diversion in place. The construction traffic management will be implemented from 7 am on the work day and removed within 1 hour of completion of work requiring the road closure.

Property and emergency vehicle access will be maintained at all times, with impacted properties notified.

Refer to Appendix G for the proposed TGS for implementation to support the installation of the boom, main hook, and fly hook of Tower Crane 1.

18/03/2024	5.2.1	Nil	**Pedestrian / Cyclist Impact Management During Tower Crane 1 Works** To support the tower crane 1 installation works as outlined in Section 4.6 of this report, temporary footpath closures, and pedestrian and cyclist diversion away from the section of Phillip Street between Access Road A and Blair Avenue will be necessary during lifting of the crane jib. The closure is required for one day, expected to be on a Sunday. Due to the length of the pedestrian detour around the road closure on Phillip Street (being Lethbridge Street – Blair Avenue – Ross Place – Gidley Street), a shuttle bus will be provided for road users that need to travel in an east – west direction along Phillip Street. Traffic controllers tasked with pedestrian and cyclist management duties are proposed at Phillip Street / Lethbridge Street, Phillip Street / Gidley Street to assist pedestrians and cyclists and offer the shuttle bus service. The temporary traffic management arrangement is detailed in TGS forming part of Appendix G.
18/03/2024	5.3.1	Nil	**Public Transport Impact Management During Tower Crane 1 Works** Seven public bus routes currently operate along Phillip Street between Glossop Street and Queen Street. Summary of existing bus services provided in Table 11.

TABLE 2: EXISTING BUS SERVICES OPERATING ALONG PHILLIP STREET

Route	Description	Operations	Sunday Operations?	Impacted by TC1 Works (Yes / No)
745	Norwest Private Hospital to St Marys via Stanhope Gardents	Monday – Friday, between 6:49am – 7pm Saturday, between 7:45am – 5:45pm	No	No
758	St Marys to mount Druitt via Tregear & Shalvey	Monday – Friday, between 5:20am – 11pm Saturday, between 8:06am – 7:40pm Sunday, between	Yes	Yes

		8:29am – 6:03pm		
759	St Marys to Mount Druitt via Ropes Crossing	Monday – Friday, between 5:01am – 9:22pm Saturday, between 7:34am – 9:58pm Sunday, between 8:24am – 8:15pm	Yes	Yes
774	Mount Druitt to Penrith via Nepean Hospital	Monday – Friday, between 5:36am – 11:46pm Saturday, between 7:16am – 10:39pm Sunday, between 7:51am – 10:02pm	Yes	Yes
782	St Marys to Penrith via Werrington	Monday – Friday, between 9:20am – 2:05pm Saturday, between 10:07am – 3:28pm	Yes – Between Penrith Station and Werrington Station only	No
835	WSU Penrith to Prairiewood	Monday – Friday, between 6:04am – 6:15pm	No	No
S11	St Marys to St Clair (Loop Services)	Monday – Friday only, between 9am – 2pm	No	No

Considering existing bus operations, Sunday's closure of Phillip Street is sought to minimise the impact on public transport operations.

Notification to TfNSW Customer Journey Planning has been made, whereby the final details of route diversions required for bus routes 758, 759 and 774 are pending direction from TfNSW.

The pair of bus stops along Phillip Street, west of Glossop Street (Stop ID 2760174 and Stop ID 2760210) may need to be closed on the day of the works, with bus passengers diverted to either the St Marys Station Bus Stop, or to a temporary bus stop location agreed with TfNSW and bus operators for routes 758, 759 and 774.

18/03/2024	5.4.1	Nil	**Property and Utility Access Impact Management During Tower Crane 1 Works** Access to the existing residential properties affected by the proposed road closure will be managed by traffic controllers on Phillip Street, Station Street and Blair Avenue, where local access will be maintained. The traffic management arrangements will be communicated both in writing and in person as per the communications protocol of Sydney Metro.
28/03/2024	5.5.1	Nil	**Construction Activities During Tower Crane 1 Works** Consultation with SBT has been undertaken, confirming there are no conflicting works requiring road closures scheduled by SBT for the 21 April 2024 (planned work date) and 12 May 2024 (contingency date).
18/03/2024	5.6.1	Nil	**Authorised Traffic Controller During Tower Crane 1 Works** To facilitate the temporary traffic management which will be in place to support the Tower Crane 1 Works, refer to Table 12 for details of traffic controllers requirements and their respective roles at each of the identified locations. Additional traffic controllers for the installation and maintenance of temporary traffic management devices and to cover breaks during the work shift will be provided.

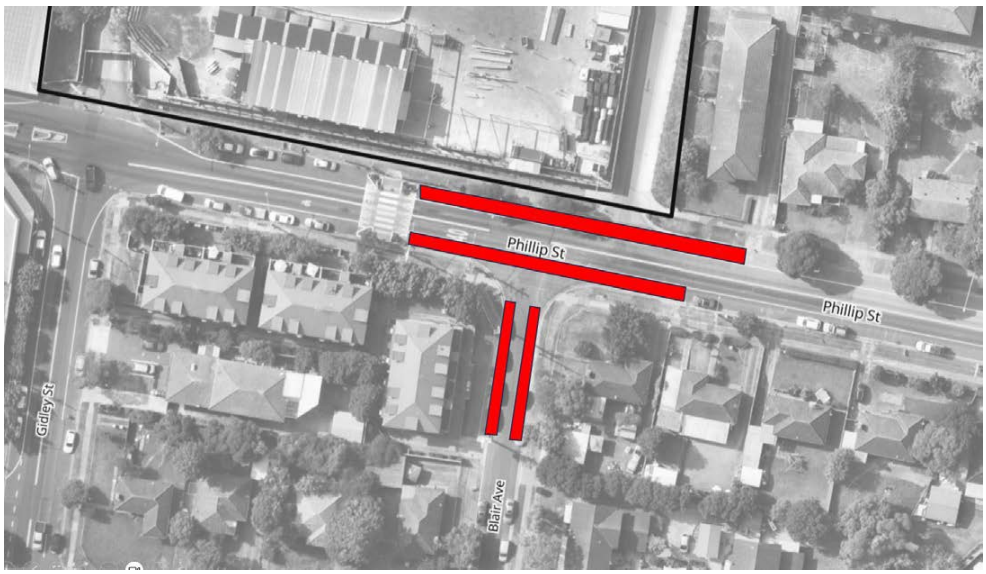
TABLE 3: SCHEDULE OF TRAFFIC CONTROLLERS REQUIRED FOR TOWER CRANE 1 WORKS

Location	Traffic Controllers Required	Objectives and Responsibilities of Traffic Controllers
Phillip Street, Phillip St / Lethbridge St intersection	3	- Manage local resident vehicular access (1) - Manage heavy vehicle turning movement (1) - Manage pedestrian and cyclists detour (1)
Phillip Street, driveway of 32 Phillip St	2	- Manage hard road closure and facilitate vehicular access to/from 32 Phillip Street (1)

		- Manage pedestrian and cyclist movements (1)
Phillip Street, Phillip St / Gidley St intersection	3	- Manage soft road closure (1) - Manage hard road closure (1) - Manage pedestrian and cyclists detour (1)
Blair Avenue, Blair Ave / Ross Pl	2	- Manage local resident vehicular access (1) - Manage pedestrian and cyclists detour (1)
Blair Ave, driveway of 34-36 Phillip St	1	- Manage hard road closure and facilitate vehicular access to/from 34 - 36 Phillip Street, and pedestrian and cyclist movements (1)
Lethbridge Street, Lethbridge St / Chesham St intersection	2	- Manage local resident vehicular access (1) - Manage pedestrian and cyclists detour (1)
Station Street, driveway of 3 Station St	1	- Manage hard closure (1)
Lethbridge St / Chapel St intersection	4	- Manage heavy vehicle turning movements at the intersection (4)
Queen St / Chapel St intersection	3	- Manage heavy vehicle turning movements at the intersection (3)

The temporary traffic management arrangement is detailed in TGS, forming part of Appendix G.

22/03/2024	6.1	Nil	To facilitate tower crane 1 works, a temporary no-stopping restriction will be required at the intersection of Phillip Street and Blair Avenue, as depicted in Figure 23. Figure 5: Temporary no Stopping for Tower Crane 1 work



PLM will place the temporary No Stopping sign tied to bollards along the verge of Phillip Street and Blair Avenue from 6 p.m. on the day before work.

PLM will remove the temporary No Stopping signs and bollards immediately after completing the work.

25/03/2024	7.4.1	Nil	**Speed Zone Authorisation for Tower Crane 1 Work** 40km/h speed zone reduction is required along Phillip Street, between Glossop Street and Gidley Street, along parts of Lethbridge Street, and parts of Chapel Street. The SZA is required for a single day only to support Tower Crane 1 work. Refer to TGS in Appendix G for details.
25/03/2024	8.2.1	Nil	**Proposed Communications for Tower Crane 1 Work** The communications of the temporary traffic management arrangement to support tower crane 1 work are detailed in Table 14.

TABLE 4: PROPOSED COMMUNICATIONS

Notification	Timing of Notification	Content of Notification Relevant to Traffic	Target Audience
Monthly construction update	Late March 2024		Property occupiers within 200m of site
OOHW notification	7–14 days in advance of the work	Road closure information	Property occupiers within 200m of site
OOHW specific notification	7-14 days in advance of the work	Targeted road closure	Highly impacted residents and businesses

		information with diagrams	
Temporary corflute signage	7 days in advance of the work	General notification of upcoming road closures	Phillip Street, Lethbridge Street, Gidley Street, Blair Avenue, Chapel Street
Consultation with key stakeholders and notification to Emergency Services	Four weeks before works commence	Detailed notification of road closures	

2 Executive Summary

The St Marys Station (STM) site at all stages of handovers will have a heavy vehicle access on Glossop Street and a heavy vehicle egress on Phillip Street. Both the site access and egress will be traffic controlled at all times from an hour before and ending one hour after site operation hours.

3 Project Details

3.1 Proposed Works

The St Marys Station is to be delivered in the following stages:

- Stage 1 - Site Establishment
- Stage 2 - Piling and Base Slab
- Stage 3 - Structure
- Stage 4 – Finishes works
- Stage 5 - MEP Services Works
- Stage 6 - Station Precinct Works (Utility, Bus Stops, Walkways & Bike Racks)
- Stage 7 – Vertical Transportation
- Stage 8 - Rail Systems
- Stage 9 - Tunnel Ventilation System
- Stage 10 - Station MEP Integrated Testing & Commissioning

3.2 Site Location

FIGURE 6: SITE LOCATION

The site is located to the south of St Marys Station, north of Phillip Street between Queen Street and Glossop Street.

3.3 Timing of Works

There will be 4 stages of St Marys site handovers between Sydney Metro and SSTOM, with the first handover on 28th September 2023 to SSTOM. The end of station construction works is in mid-2026. The proposed staged handovers are as follows:

- Stage 01: SSTOM / SBT shared access (28/09/23 to 01/12/23)
- Stage 02: SSTOM full possession of site (02/12/23 to March 2024)

- Stage 03: SBT TBM retrieval (20-week period from March 2024)
- Stage 04: SSTOM has full possession of the site except for Portion A-PS8 for FSM works (July / August 2024 onwards)

Note that Stage 03 dates are subject to change depending on TBM progress from Orchard Hills.

The four handover stages are presented in the figures below:

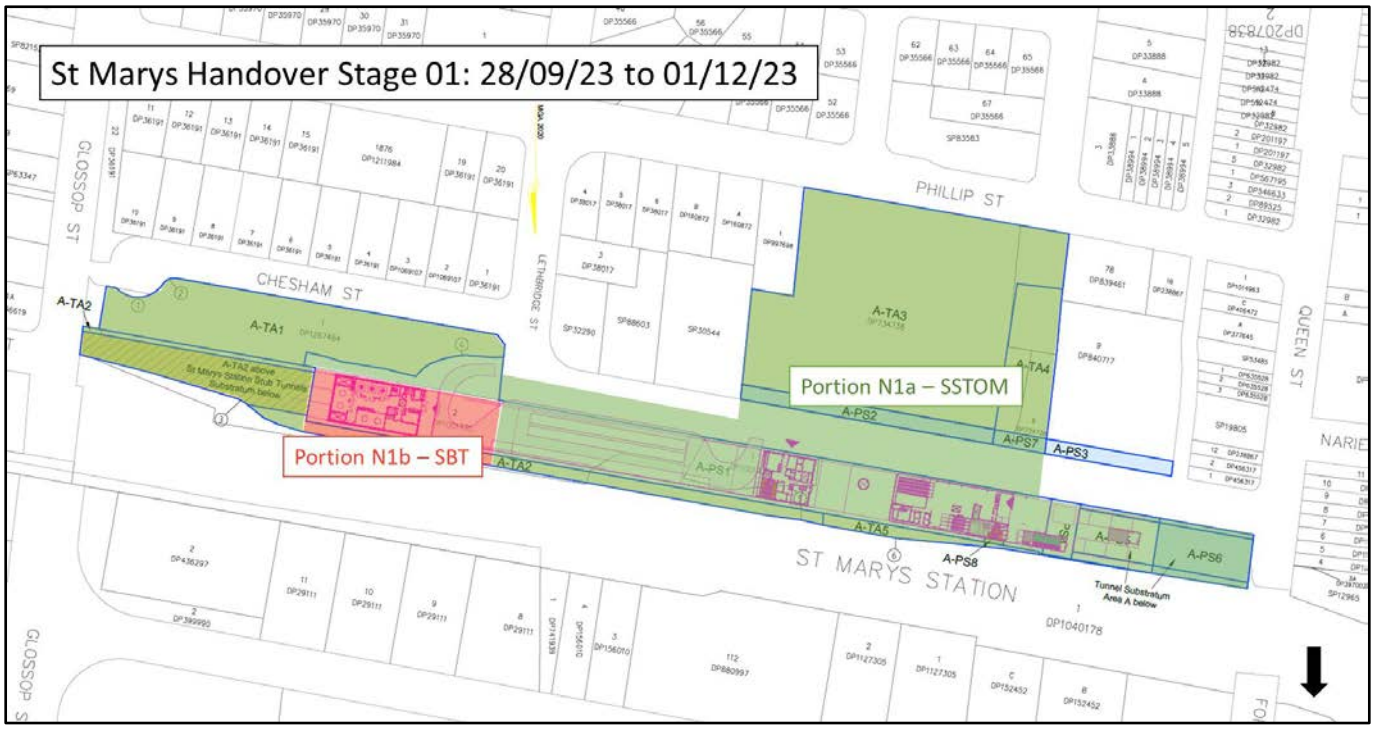


FIGURE 7: STM HANDOVER STAGE 01

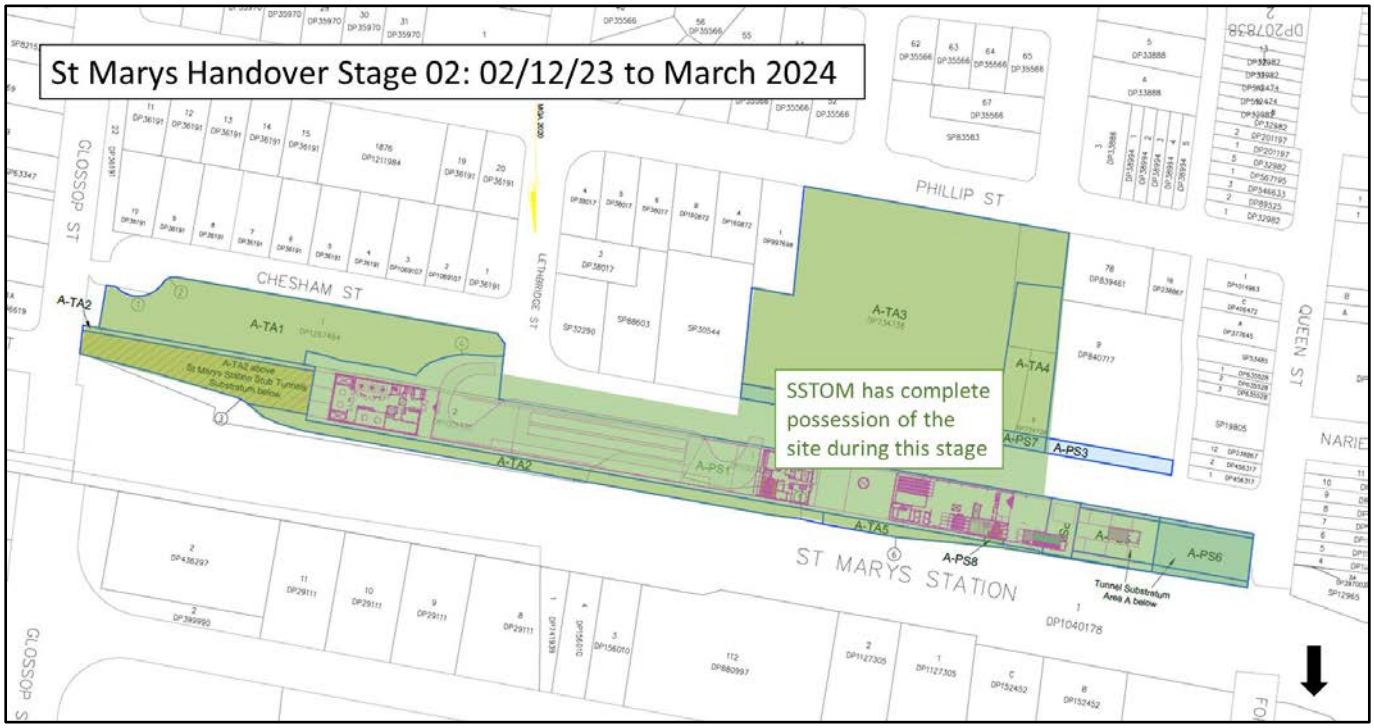


FIGURE 8: STM HANDOVER STAGE 02

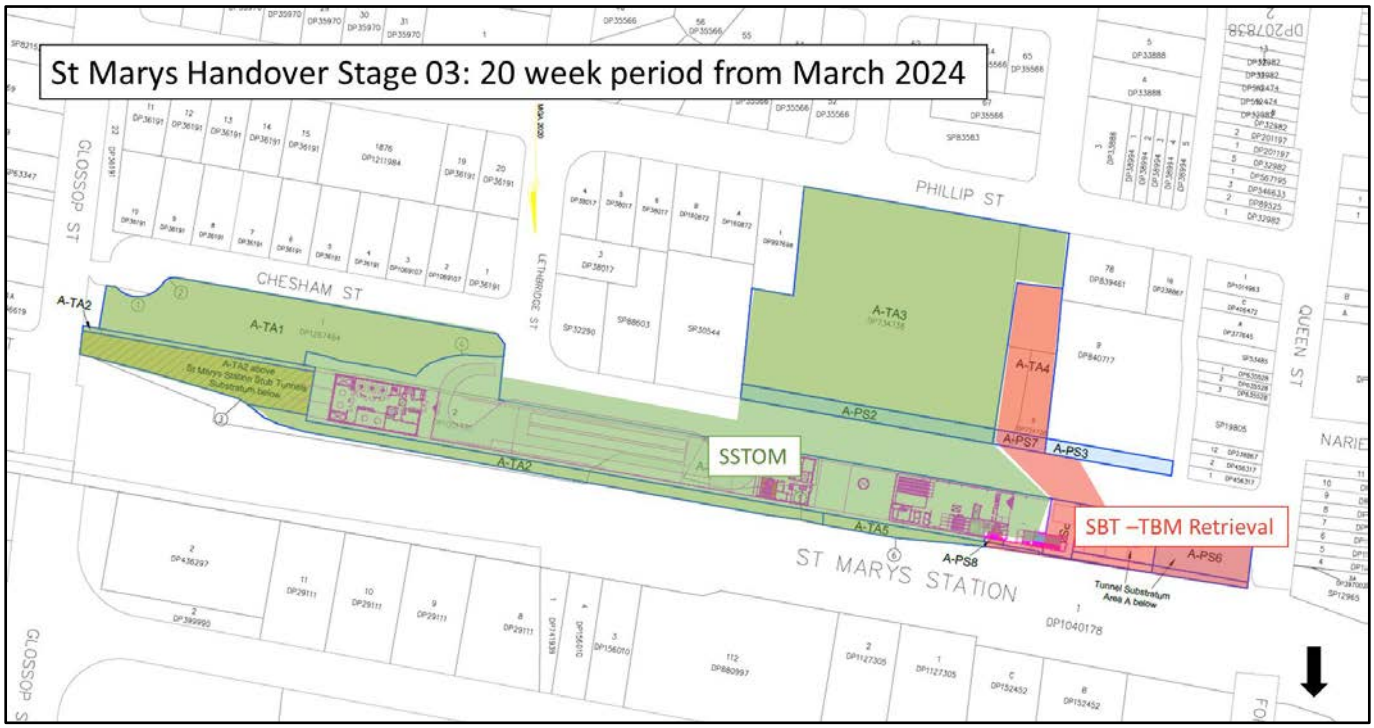


FIGURE 9: STM HANDOVER STAGE 03

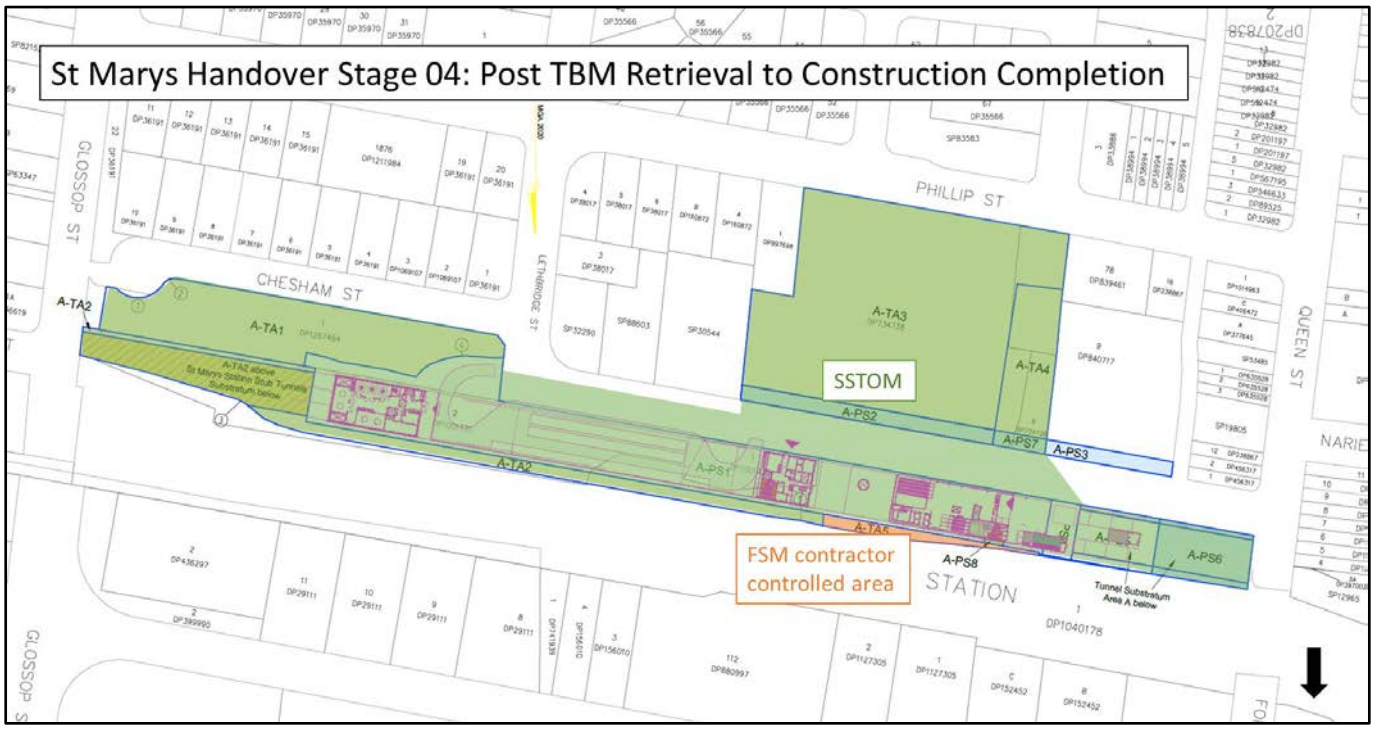


FIGURE 10: STM HANDOVER STAGE 04

The proposed works activity as planned are detailed in Table 5.

TABLE 5: TIMING OF WORKS

Stage	Activity	Start Date	Finish Date
Stage 01	Site Establishment	28-Sep-23	30-Nov-23
Stage 02	Piling and Base Slab	8-Nov-23	5-Mar-24
Stage 03	Structure	23-Feb-24	25-Aug-25
Stage 04	Finishes works	19-Jun-24	11-Oct-25
Stage 05	MEP Services Works	25-Jul-24	25-Nov-25
Stage 06	Station Precinct Works (Utility, Bus Stops, Walkways & Bike Racks)	27-Sep-24	10-Mar-26
Stage 07	Vertical Transportation	9-Dec-24	6-Jan-26
Stage 08	Rail Systems	9-Jul-25	8-Jun-26
Stage 09	Tunnel Ventilation System	5-May-25	21-Nov-25
Stage 10	Station MEP Integrated Testing & Commissioning	24-Oct-25	22-Apr-26

3.4 Site Related Data

3.4.1 Road Details

The key roads surrounding the Site are identified within Figure 1 and summarised below noting Harris Street is not part of the haul route:

TABLE 6: LOCAL ROAD NETWORK

Road Name	Section	Speed Limit	Parking	Traffic Volume and Peak Times	Urban / Rural
Phillip Street	Queen Street to Glossop Street	50km/hr	Yes	-	Urban
Glossop Street	Harris Street to Great Western Highway	60km/hr	Yes	-	Urban

Great Western Highway	Mamre Road to Glossop Street	60km/hr	No	-	Urban
M4	Off-ramp onto Mamre Road	Up to 110km/hr	No	-	Urban
Mamre Road	M4 off-ramp to Great Western Highway	60km/hr	No	-	Urban

Note the AM / PM peaks on the road network is assumed to occur at 7.30am – 8.30am and 4.30pm – 5.30pm per the SSI-10051 EIS documentation.

3.4.2 Crash History

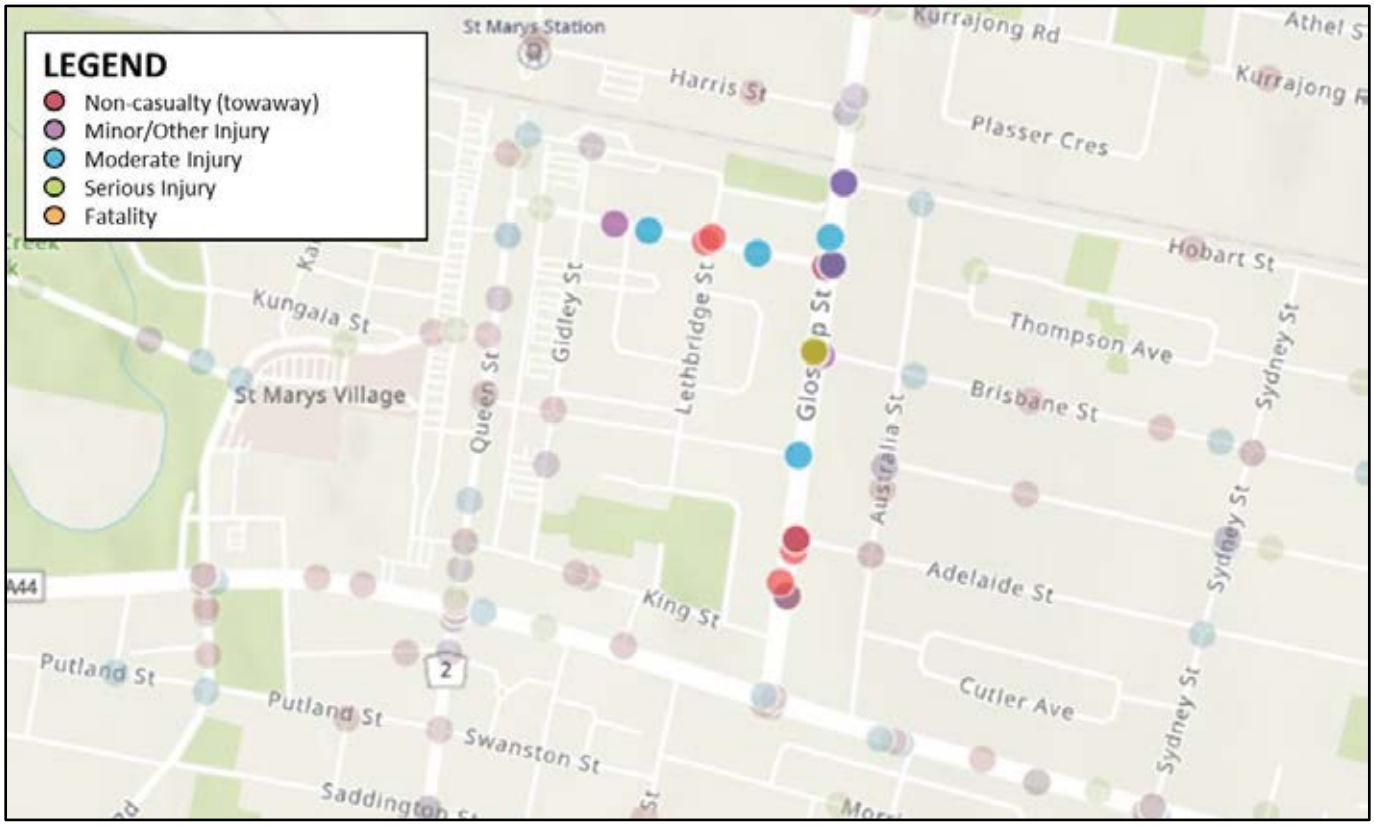


FIGURE 11: CRASH MAP

TABLE 7: CRASH HISTORY

Year	Location	RUM Code	Injury / Death

2017	Glossop Street near Adelaide Street	10 – Cross traffic	Injury (1 moderate)
2017	Glossop Street near Adelaide Street	30 – Rear end	Injury (1 serious)
2017	Glossop Street near Adelaide Street	13 - Right near	Injury (1 serious, 3 moderate)
2017	Glossop Street near Adelaide Street	13 - Right near	Non-casualty (towaway)
2017	Glossop Street near Adelaide Street	30 – Rear end	Injury (1 moderate)
2017	Glossop Street near Adelaide Street	16 – Left near	Non-casualty (towaway)
2017	Glossop Street near Adelaide Street	30 – Rear end	Non-casualty (towaway)
2017	Glossop Street near Adelaide Street	30 – Rear end	Injury (1 minor)
2017	Glossop Street near Adelaide Street	16 – Left near	Non-casualty (towaway)
2017	Phillip Street near Blair Avenue	0 – Ped nearside	Injury (1 minor)
2017	Glossop Street near Brisbane Street	0 – Ped nearside	Injury (1 serious)
2017	Glossop Street near Brisbane Street	10 – Cross traffic	Injury (1 minor)
2017	Glossop Street near Hobart Street	74 - On road-out of cont.	Injury (1 moderate)
2017	Phillip Street near Lethbridge Street	71 - Off rd left => obj	Injury (1 moderate)
2017	Glossop Street near Lethbridge Street	30 – Rear end	Injury (1 serious)
2017	Glossop Street near Lethbridge Street	21 – Right through	Injury (1 moderate)
2018	Glossop Street near Adelaide Street	21 – Right through	Non-casualty (towaway)

2018	Glossop Street near Adelaide Street	16 – Left near	Injury (1 serious)
2018	Glossop Street near Brisbane Street	2 – Ped far side	Injury (1 serious)
2018	Glossop Street near Hobart Street	16 – Left near	Injury (1 minor)
2018	Glossop Street near Number 10	0 – Ped nearside	Injury (1 moderate)
2018	Glossop Street near Phillip Street	13 - Right near	Non-casualty (towaway)
2018	Glossop Street near Phillip Street	21 – Right through	Non-casualty (towaway)
2018	Glossop Street near Phillip Street	21 – Right through	Injury (1 moderate)
2019	Glossop Street near Adelaide Street	16 – Left near	Injury (1 moderate)
2019	Glossop Street near Phillip Street	30 – Rear end	Injury (1 minor)
2020	Glossop Street near Adelaide Street	80 - Off rt/lft bnd=>obj	Injury (1 moderate)
2020	Glossop Street near Adelaide Street	16 – Left near	Injury (1 minor)
2020	Glossop St near Great Western Highway	69 – Other on path	Non-casualty (towaway)
2020	Glossop Street near Phillip Street	21 – Right through	Injury (2 moderate)
2020	Glossop Street near Phillip Street	20 – Head on	Injury (2 moderate)
2020	Glossop Street near Phillip Street	37 – Left turn sideswipe	Injury (1 moderate)
2021	Glossop Street near Adelaide Street	30 – Rear end	Injury (1 minor)
2021	Glossop Street near Brisbane Street	73 - Off rd rght => obj	Non-casualty (towaway)

2021	Glossop Street near Phillip Street	21 – Right through	Non-casualty (towaway)
2021	Glossop Street near Chapel Street	21 – Right through	Injury (1 moderate)
2021	Glossop Street near Chapel Street	21 – Right through	Injury (1 moderate)

An analysis of the crash history shows that Glossop Street has a high number of recorded crashes over a 5-year period between 2017 – 2021, indicating existing road safety issues along Glossop Street. It is understood that a broader road safety review has been undertaken by the relevant road authority, where upgrade works are planned to address safety issues.

3.4.3 Vulnerable Road Users

Vulnerable road users (VRU) are road users not in a car, bus or truck. In the event of a crash, VRUs have little to no protection from crash forces, therefore, need to be addressed within this CTMP. Table 8 provides context to VRU's surrounding the Site.

TABLE 8: PUBLIC AND ACTIVE TRANSPORT

Road Name	Pedestrian	Cycling	Public Transport
Phillip Street	Yes both sides of Phillip Street.	No separated cycle or shared paths available. Bicycle logo installed on Phillip Street. Phillip Street between Queen Street and Blair Avenue identified in the TfNSW cycleway finder as a general road where cyclists share road space with vehicles, buses and parked vehicles.	Yes – 745, 758, 759, 774, 782, 835, S11, 4157, 4637, 4657
Glossop Street	Yes both sides of Glossop Street	No separated cycle or shared paths available. No marked on road cycle path available	Yes – 774, 835, 4571, 4637

4 Works Proposed

4.1 Site Access

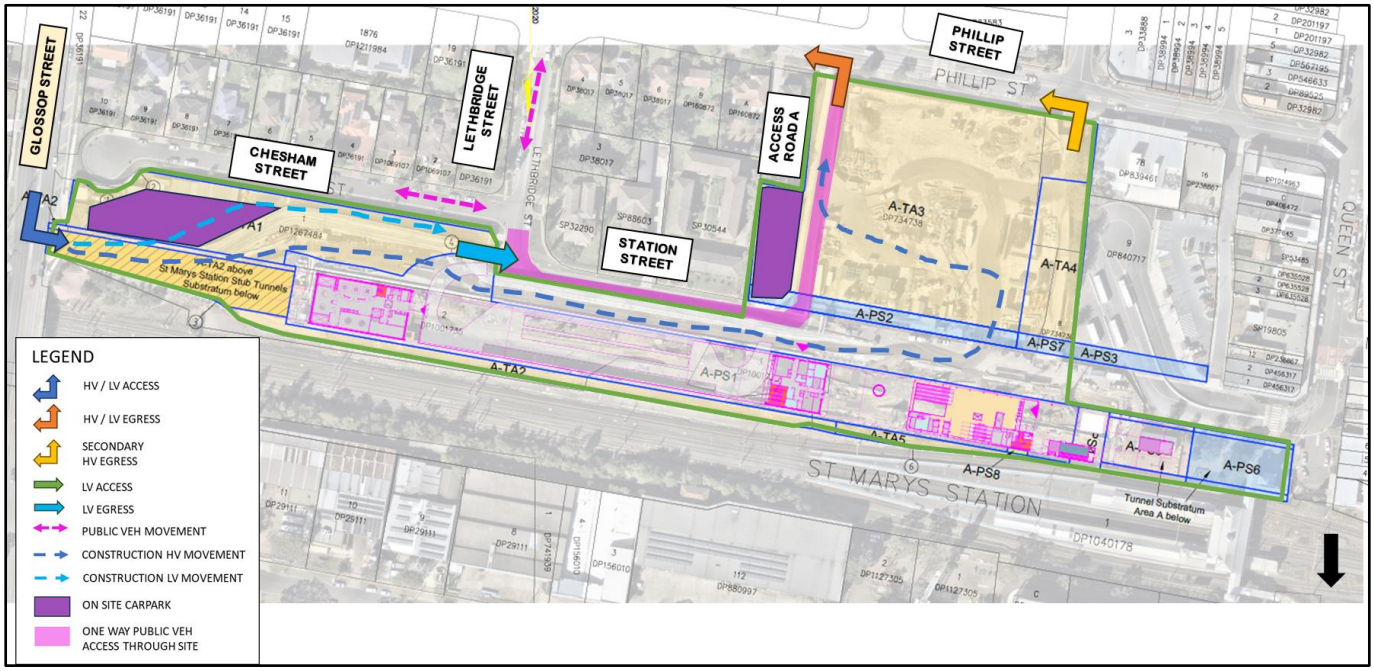


FIGURE 12: STM SITE ACCESS

Site access for all heavy vehicles into STM Station Site will be off Glossop Street and egress for all heavy vehicles via Phillip Street per directional arrows shown in Figure 12. Note this will be the HV site access and egress for all stages of construction handovers.

Chesham Street and Lethbridge Street before Chesham Street is retained in its existing configuration with two-way movement.

Lethbridge Street after Chesham Street and Station Street has been reconfigured for one-way movement north / west bound (pink hatched area in Figure 12). Access Road A connects Station Street and Phillip Street with one way movement southbound through the site.

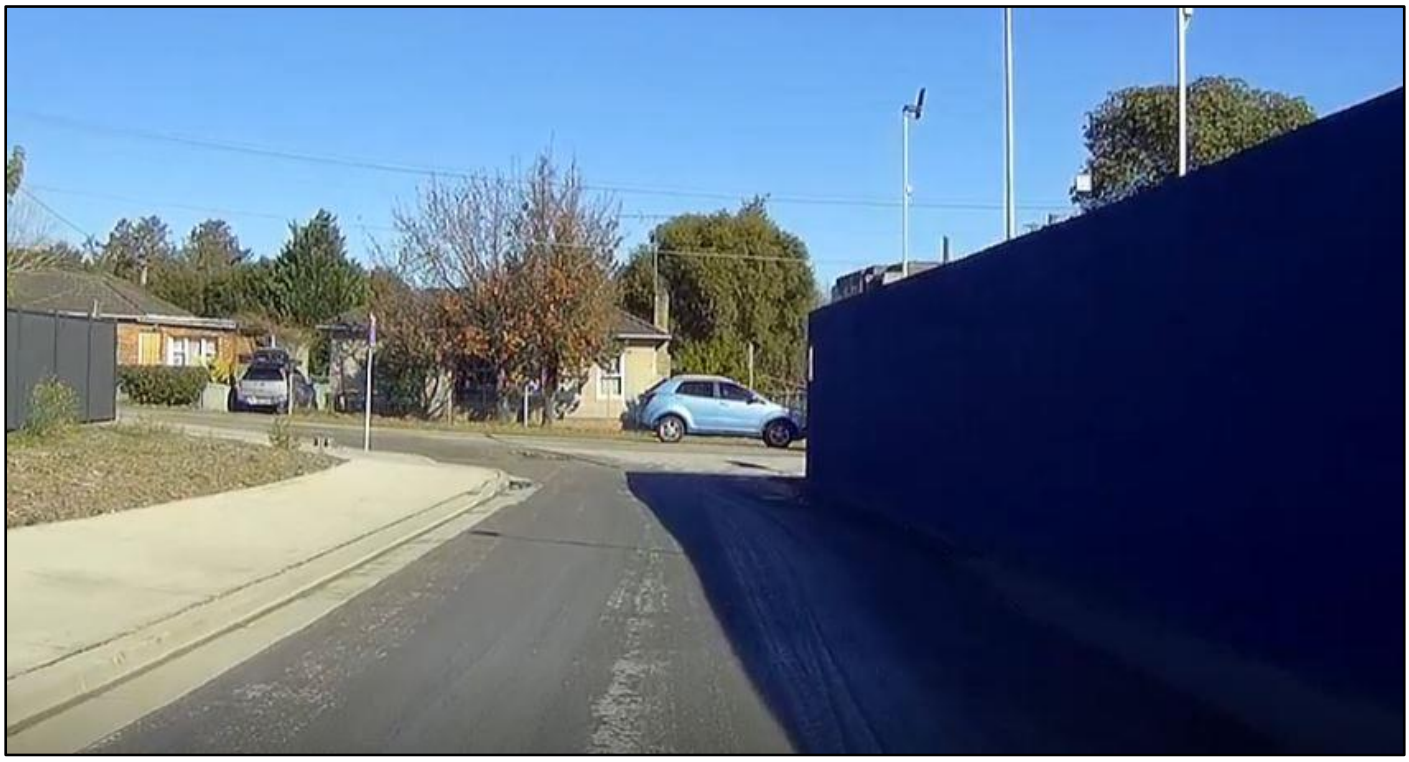


FIGURE 13: ACCESS ROAD A / PHILIP STREET INTERSECTION

LV access to the on-site carpark north of Chesham Street is through the existing Glossop Street access (adjacent to but separate from the HV access) and egress onto Lethbridge Street.

The on-site carpark east of Access Road A will be accessed through Access Road A in a left-in/left-out arrangement.

4.2 Station Construction Works Proposed

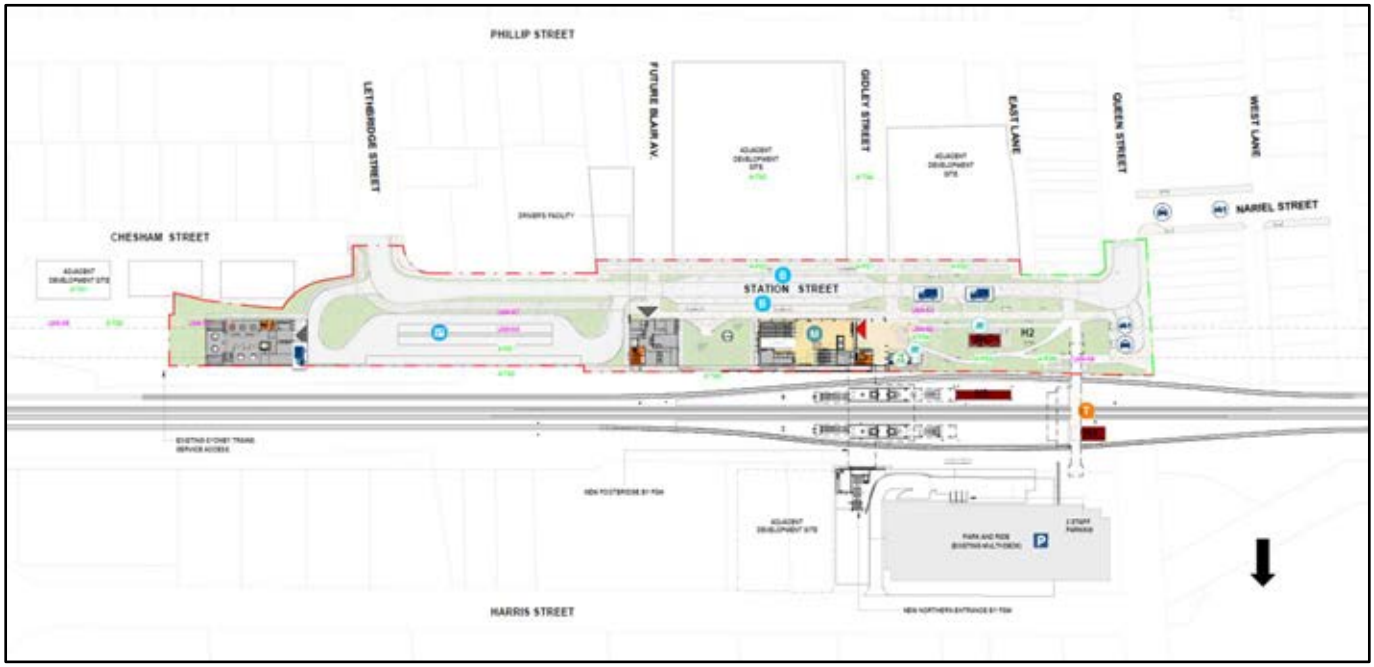


FIGURE 14: STM STATION ARCHITECTURAL (PRELIMINARY)

The following key activities would be undertaken for the station construction:

- Stage 1 - Site Establishment
- Stage 2 - Piling and Base Slab
- Stage 3 - Structure
- Stage 4 – Finishes works
- Stage 5 - MEP Services Works
- Stage 6 - Station Precinct Works (Utility, Bus Stops, Walkways & Bike Racks)
- Stage 7 – Vertical Transportation
- Stage 8 - Rail Systems
- Stage 9 - Tunnel Ventilation System
- Stage 10 - Station MEP Integrated Testing & Commissioning

4.3 Construction Hours

Construction hours per Condition E38 of SSI 10051 are:

TABLE 9: CONSTRUCTION HOURS

Activity	Day	Time
Construction Works	Mondays to Fridays	7:00am to 6:00pm
	Saturdays	8:00am to 1:00pm
	Sundays or Public Holidays	At no time

It is anticipated that construction works will be conducted outside of the hours outlined above. Per Conditions E41 and E42, PLM will lodge an application with DPE to seek approval for evening works from 6pm to 10pm on weekdays and any ancillary works associated with OSOM deliveries between 10pm and 5am.

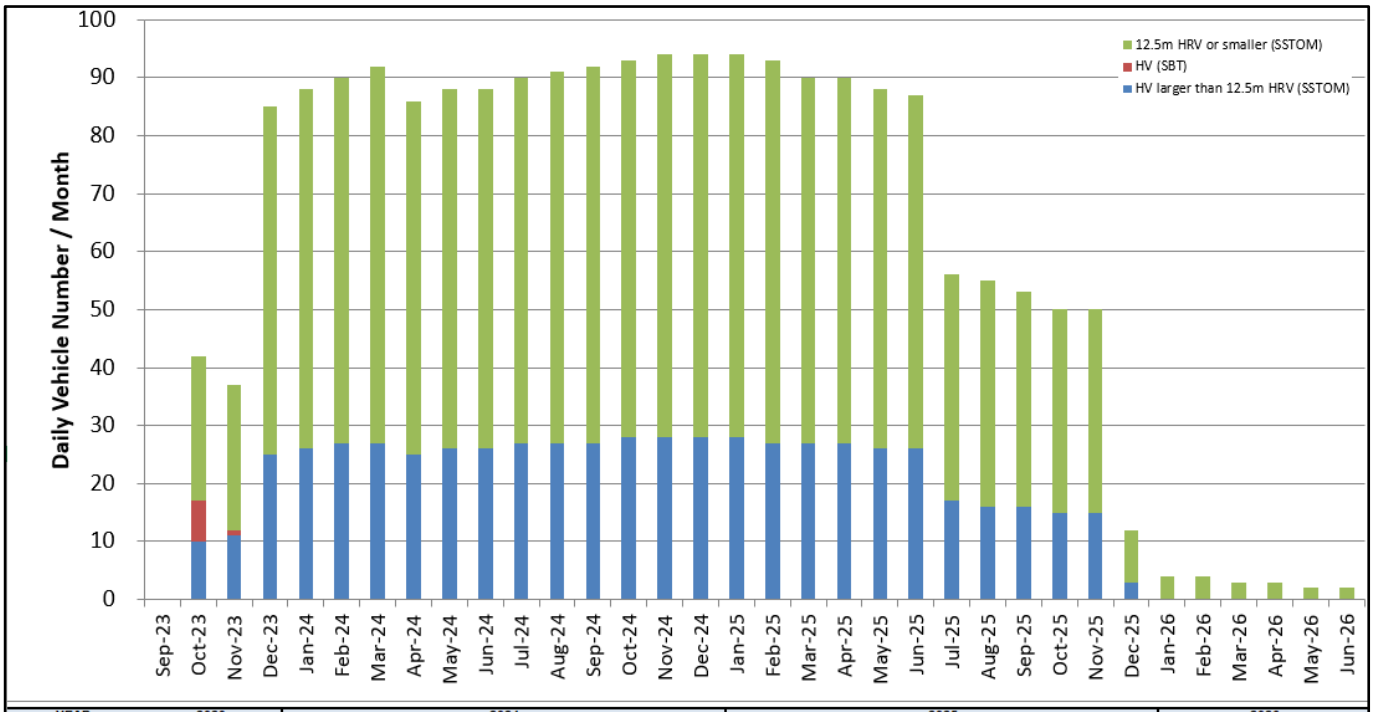
4.4 Construction Vehicle Movements

4.4.1 Truck Vehicle Volume

The projected daily heavy vehicle volume for all stages of STM construction is shown in Figure 15:

- Red: SBT HV
- Green: SSTOM HVs, 12.5m HRV or smaller
- Blue: SSTOM HVs larger than 12.5m HRV up to 19m AVs

The traffic volume presented are actual number of vehicles, i.e., the number of vehicle movement is double of the actual number of vehicles to account for ingress and egress vehicular volume.



YEAR	2023				2024												2025												2026					
MONTH	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Apr-26	May-26	Jun-26
HV larger than 12.5m HRV (SSTOM)	0	10	11	25	26	27	27	25	26	26	27	27	27	28	28	28	28	27	27	27	26	26	17	16	16	15	15	3	0	0	0	0		
12.5m HRV or smaller (SSTOM)		25	25	60	62	63	65	61	62	62	63	64	65	65	66	66	66	66	63	63	62	61	39	39	37	35	35	9	4	4	3	3	2	2
HV (SBT)	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

FIGURE 15: PROJECTED STM HV NUMBERS

The anticipated heavy vehicle volume peak will start in December 2024 and will reduce after June 2025.

4.4.2 Truck Routes

It is proposed that all construction vehicles will enter and exit the Site via the routes shown in Figure 16. The routes shown are to be utilised by all construction vehicles travelling to and from the site and represents the shortest route available from / to a State Road – hence minimising the impacts of the construction process. A copy of the approved routes will be distributed by PLM D&C to all drivers before their arrival to Site.

The largest truck required for Station construction will be 19m long Articulated Vehicles (19m AVs) so no over-size permit will be required for heavy vehicle access to site through Glossop Street or Phillip Street. Some specialist plant and equipment will be transported to site on 19m AVs or small with an over mass load such as piling rigs and crawler cranes. The specialist plant and equipment provider will hold the over mass permit and those deliveries will occur between 10pm and 5am at night.

In the event that an oversized vehicles is required to travel to the Site, PLM D&C or its subcontractor will obtain an OSOM permit from the National Heavy Vehicle Regulator (NHVR) and provide additional TGSs when required.

Note that regular heavy vehicle deliveries to site will be undertaken by vehicles up to 12.5m HRVs.

FIGURE 16: CONSTRUCTION VEHICLE ACCESS ROUTE

The swept paths (attached in Appendix A) demonstrate all critical turns along the route shown in Figure 16. The same route is currently being used by 19m AVs to supply the SBT construction at STM. All construction vehicles will enter the site via Glossop Street and exit out of the site onto Phillip Street via the existing Site accesses in a forward direction.

Vehicles entering the site through Glossop Street will cross the pedestrian footpath. The traffic controller located adjacent to the access gate will stop and hold pedestrians on the Glossop Street footpath when required. The primary HV egress onto Access Road A will not cross any footpaths and there is a traffic controller at this gate watching for pedestrians on the footpath opposite the gate. The secondary HV access at the intersection of at the former intersection of Gidley Street and Phillip Street will cross the pedestrian footpath in that location and if in use, at least one pedestrian controller in addition to a traffic controller will be managing this access.

4.5 Temporary Traffic Management Method

4.5.1 Stage 01 Handover (SSTOM / SBT shared site)

SSTOM and SBT will be sharing the Glossop Street HV access, the Phillip Street HV egress and the internal haul road during this stage.

During this time period SBT will continue to operate out of hours. SSTOM will be applying to DPE for evening operating hours (6pm to 10pm). Given their extended hours, SBT will continue their traffic control arrangements at Glossop Street and Phillip Street with SSTOM traffic control taking over at the end of November 2023. Traffic control will have access to both SSTOM and SBT's logistics software during this stage so deliveries for both teams can be coordinated at the entry with the respective teams' site superintendents.

With the exception of the one off piling rig delivery, SSTOM nor SBT will have deliveries from heavy vehicles larger than 19m AVs in Stage 01 and SBT LV access to site will be restricted to the Access Road A carpark only during this stage.

Existing SBT TGS arrangements on Glossop Street will be retained. Note traffic signage on the one-way Lethbridge Street – Station Street – Access Road A link will be updated for clarity following a safety review of the existing traffic management arrangement along Station Street and Lethbridge Street.

TGSs has been provided for Access Road A / Phillip Street egress operations for vehicles larger than 12.5m HRVs and operation of the secondary HV egress opposite Gidley Street. A TGS has been provided for the one off piling rig delivery where the 27m long AV unloads the piling rigs on Glossop Street. See Appendix B for details of the modified signage and line marking arrangement and TGSs.

4.5.2 Stage 02 Handover (SSTOM only site)

The site will be handed over entirely to SSTOM in this stage.

SSTOM will have no works outside of the station boundary during this stage.

There will be a traffic controller at all times during construction hours on the Glossop Street and Phillip Street accesses to manage pedestrian / cyclist traffic and construction vehicle access / egress. There is no visitor parking on-site at any time so the traffic controllers will be managing heavy vehicle access only.

If the secondary egress on Phillip Street is used, a traffic controller will be managing that gate at all times with a pedestrian controller given that gate's proximity to St Marys town centre and the higher levels of pedestrian traffic in this area compared with Glossop Street.

4.5.3 Stage 03 Handover (SBT TBM Retrieval)

Details of the temporary traffic management method during Stage 03 will be outlined in the SBT CTMP update for TBM retrieval.

4.5.4 Stage 04 Handover (FSM Works)

FSM works will require the permanent handover of Portion A-TA5 and it will be serviced from Harris Street and the existing St Marys station platform.

Details of the temporary traffic management method for FSM during Stage 04 will be outlined in the FSM CTMP prepared by Laing O'Rourke.

PLM will fence off Portion A-TA5 prior to the first FSM access request and it will remain fenced off following FSM works.

The rest of the site will operate as per Stage 02.

4.6 Tower Crane Installation Works

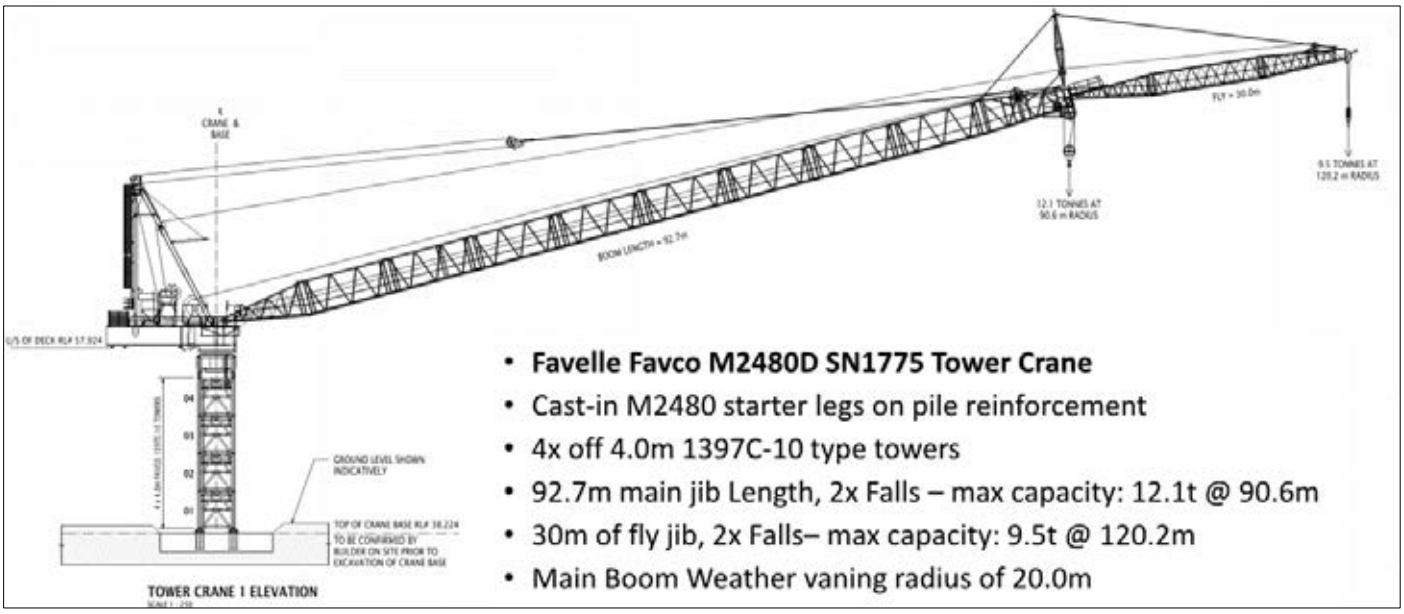
Two tower cranes adjacent to the station boxes are required to support on-site construction beyond Stage 2 Piling and Base Slab works.

Tower Crane 1 (TC1) will be located south of the Station Box, within A-TA3, detailed in Figure 17.

FIGURE 17: TOWER CRANE 1 LOCATION

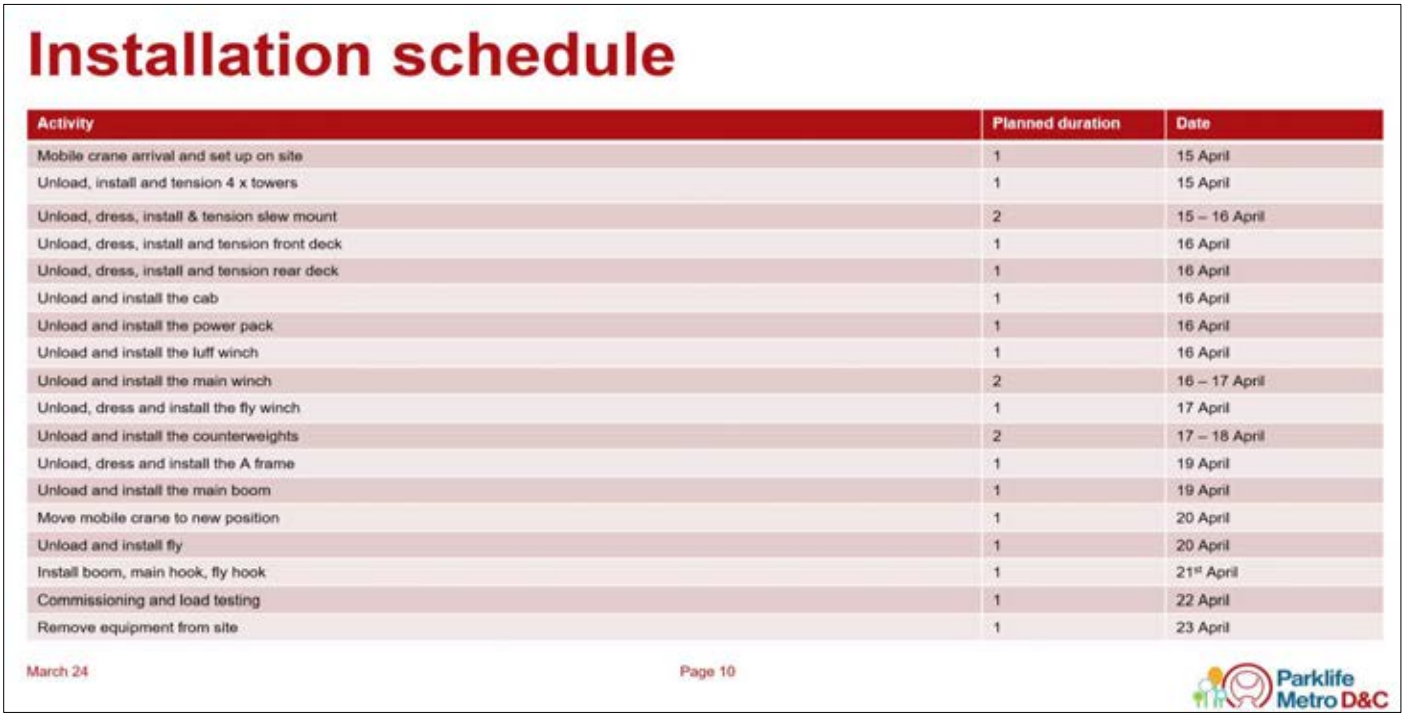
Details of tower crane 1 to be installed are provided in Figure 18.

FIGURE 18: TOWER CRANE OVERVIEW (TC1)



A work schedule is provided in Figure 19 for the tower crane 1 installation works.

FIGURE 19: TOWER CRANE 1 INSTALLATION SCHEDULE



Installation schedule

Activity	Planned duration	Date
Mobile crane arrival and set up on site	1	15 April
Unload, install and tension 4 x towers	1	15 April
Unload, dress, install & tension slew mount	2	15 – 16 April
Unload, dress, install and tension front deck	1	16 April
Unload, dress, install and tension rear deck	1	16 April
Unload and install the cab	1	16 April
Unload and install the power pack	1	16 April
Unload and install the luff winch	1	16 April
Unload and install the main winch	2	16 – 17 April
Unload, dress and install the fly winch	1	17 April
Unload and install the counterweights	2	17 – 18 April
Unload, dress and install the A frame	1	19 April
Unload and install the main boom	1	19 April
Move mobile crane to new position	1	20 April
Unload and install fly	1	20 April
Install boom, main hook, fly hook	1	21st April
Commissioning and load testing	1	22 April
Remove equipment from site	1	23 April

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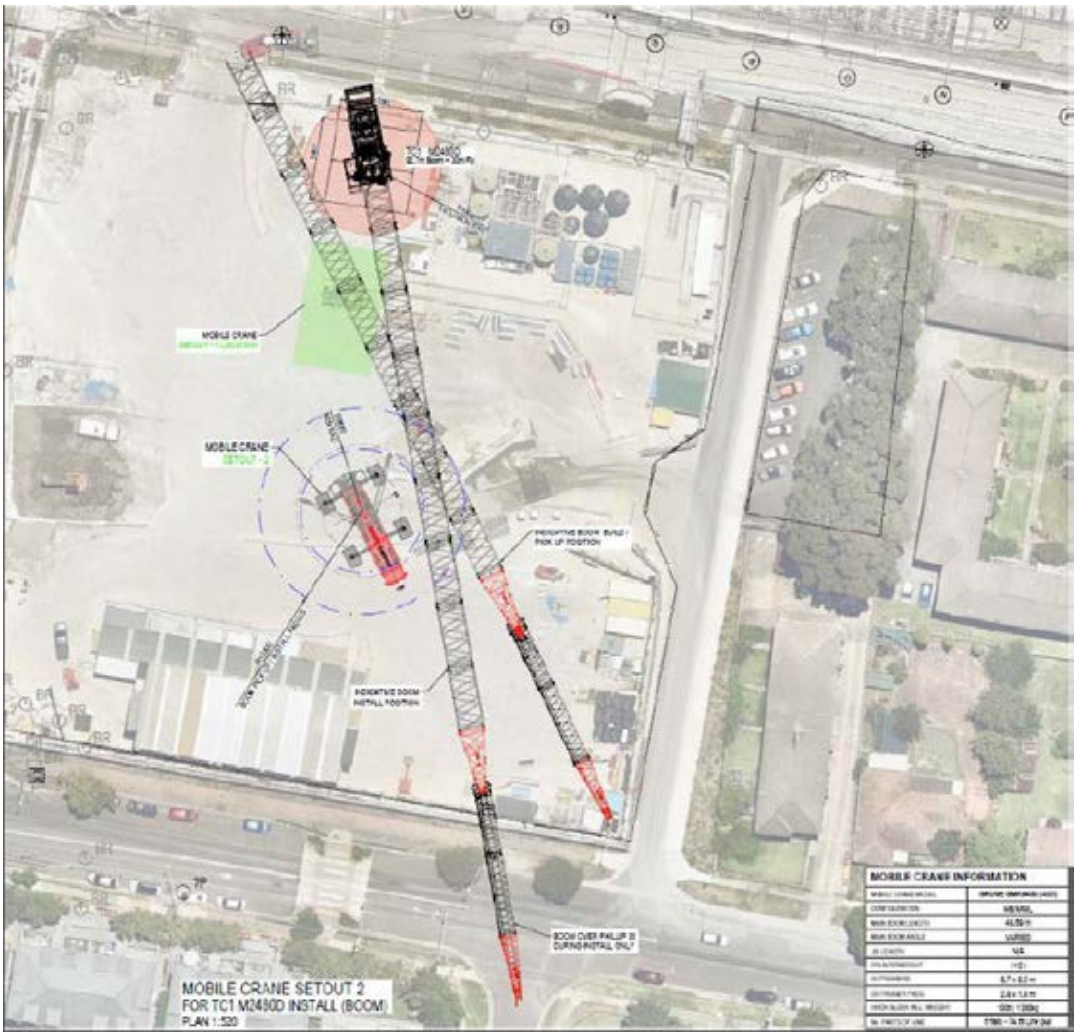
Installing the boom, main hook, fly hook requires the closure of Phillip Street between Lethbridge Street and Gidley Street, Access Road A, and Blair Avenue between Ross Place and Phillip Street. This road closure is required due to the combined total length of the boom and fly, the type of mobile crane required, space required and the position of the mobile crane relative to the lifting load to maintain a safe lifting operations. This is demonstrated in Figure 20.

FIGURE 20: SET UP FOR INSTALLATION OF BOOM, MAIN HOOK AND FLY HOOK FOR TOWER CRANE 1



The work requiring road closures is expected to take a day to complete and is proposed to occur on Sunday, 21 April 2024. However, because the work is weather-dependent (i.e., it cannot proceed due to rain, wind, or atmospheric conditions deemed unsuitable or unsafe for the work), a contingency date of Sunday 12 May 2024, is proposed. The work is estimated to take one shift.

To facilitate the works proposed, the work area will be fully closed to traffic, with vehicular traffic and pedestrian traffic diversion in place. The construction traffic management will be implemented from 7 am on the work day and removed within 1 hour of completion of work requiring the road closure.

Property and emergency vehicle access will be maintained at all times, with impacted properties notified.

Refer to Appendix G for the proposed TGS for implementation to support the installation of the boom, main hook, and fly hook of Tower Crane 1.

4.7 Risk Assessment

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

5 Traffic Impact Management

5.1 Vehicle Impact Management

There will be minimal impact on the surrounding road network as the PLM vehicle numbers are the same as the SBT vehicle numbers. The project vehicle number at peak is shown in Table 10 noting that PLM D&C defines the AM peak as being between 7.30am – 8.30am and PM peak as being 4.30pm – 5.30pm Monday to Friday which is consistent with the EIS defined AM and PM peaks.

TABLE 10: PROJECTED VEHICLE NUMBERS

Vehicle Type	IN	OUT	TOTAL	IN	OUT	TOTAL
	EIS AM Peak Construction Movements			**EIS** PM Peak Construction Movements		
LV Staff	212	0	212	0	212	212
LV Deliveries	2	2	4	2	2	4
HV	8	8	16	8	8	16
	PLM AM Peak Construction Movements (STM construction peak)			**PLM** PM Peak Construction Movements (STM construction peak)		
LV Staff	20	0	20	0	30	30
LV Deliveries	1	1	2	1	1	2
HV	8	8	16	8	8	16

Evening (6pm to 10pm) out of hour works when approved is projected to require 6 in and 6 out HV movements per hour until 9pm during peak (note that the last in movement will be scheduled to occur before 8pm) and no vehicle movements after 9pm. If approved this will occur mainly for big concrete pour days and will reduce the construction movements especially in the EIS defined AM and PM peaks.

Night (10pm to 5am) out of hour works if required for OSOM deliveries is projected to require up to 10 HVs during the entire shift covering the OSOM delivery itself and any associated works (for example, piling rigs once delivered will need to be dropped into the station box by a mobile crane to ensure the haul road is clear for day shift).

No queuing will be permitted on Glossop Street at any time. Heavy vehicle access to the Site will be managed and monitored by PLM D&C with all subcontractors to register for a delivery timeslot and location on the construction logistic software prior being granted access to Site.

The site superintendent will ensure that the minimum number of vehicles possible is scheduled to come in during the EIS peak hours and given that there is a 400m of vehicle storage area on site, release the minimum number of vehicles possible from site during the EIS peak hours to minimise impact on the surrounding road network.

5.2 Pedestrian / Cyclist Impact Management

This site is within St Marys town centre and will have to manage the associated higher pedestrian / cyclist traffic.

Works proposed in this CTMP will not change or impact the operations of the existing footpaths. Trained on-site personnel will assist pedestrians and cyclists past the work site access along Glossop Street and Phillip Street (if used) as required.

In addition, all PLM delivery drivers will always be made aware of existing road conditions and pedestrians and cyclists (at the interchange) around Site and instructed through site inductions and toolbox talks of site-specific traffic risks and the requirement to allow safe passage to vulnerable road users at site access/ egress locations. This is also reinforced in the Drivers Code of Conduct in Appendix F.

To further enhance pedestrian awareness of heavy vehicle movements, pedestrian aware decals implemented by SBT Contractors will be retained along Phillip Street. The decals will be checked regularly and replaced if faded and no longer legible. Note the Station Street decal location shown below is now within the site and will not be maintained.

The location of the SBT installed decals is shown on Figure 21 per SBT St Marys CTMP (SWMSASBT-CPG-STM-SN100-TF-PLN-000001 Rev 3).

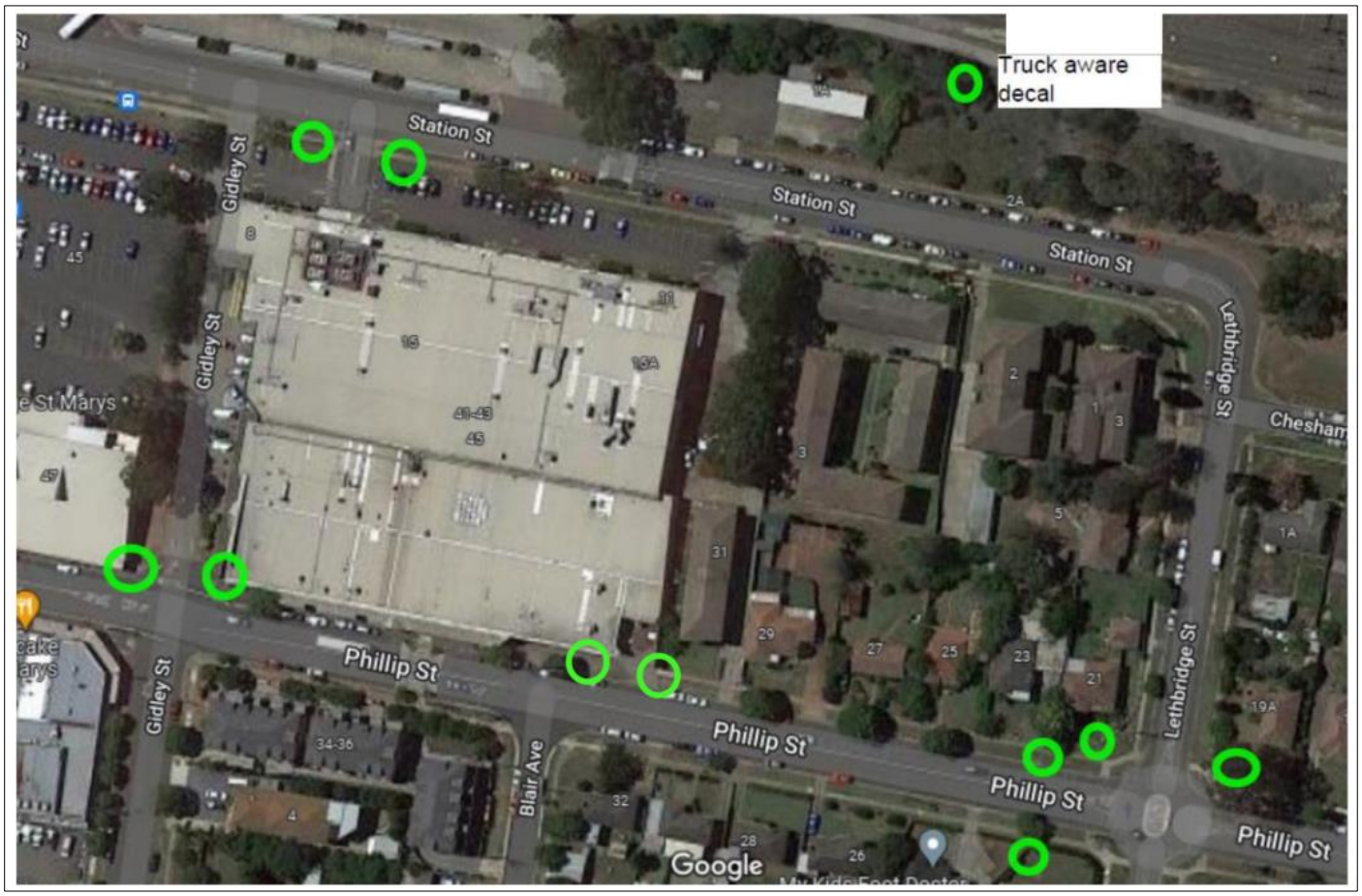


FIGURE 21: SBT TRUCK AWARE DECAL LOCATIONS

5.2.1 Pedestrian / Cyclist Impact Management During Tower Crane 1 Works

To support tower crane 1 installation works as outlined in Section 4.6 of this report, temporary footpath closures, and pedestrian and cyclist diversion away from the section of Phillip Street between Access Road A and Blair Avenue will be necessary during lifting of the crane jib. The closure is required for one day, expected to be on a Sunday.

Due to the length of the pedestrian detour around the road closure on Phillip Street (being Lethbridge Street – Blair Avenue – Ross Place – Gidley Street), a shuttle bus will be provided for road users that need to travel in an east – west direction along Phillip Street.

Traffic controllers tasked with pedestrian and cyclist management duties are proposed at Phillip Street / Lethbridge Street, Phillip Street / Gidley Street to assist pedestrians and cyclists and offer the shuttle bus service.

The temporary traffic management arrangement is detailed in TGS, forming part of Appendix G.

5.3 Public Transport Impact Management

There is seven public and three school bus services which utilises Phillip Street with a bus stop just before the intersection with Glossop Street. Glossop Street is utilised by two public and two school bus services with bus stops opposite Adelaide Street and after King Street.

All delivery drivers will be briefed that buses are always given priority along the haul route. This is also enforced in the Drivers Code of Conduct in Appendix F.

5.3.1 Public Transport Impact Management During Tower Crane 1 Works

Seven public bus routes currently operate along Phillip Street between Glossop Street and Queen Street. Summary of existing bus services provided in Table 11.

TABLE 11: EXISTING BUS SERVICES OPERATING ALONG PHILLIP STREET

Route	Description	Operations	Sunday Operations?	Impacted by TC1 Works (Yes / No)
745	Norwest Private Hospital to St Marys via Stanhope Gardents	Monday – Friday, between 6:49am – 7pm Saturday, between 7:45am – 5:45pm	No	No
758	St Marys to Mount Druitt via Tregear & Shalvey	Monday – Friday, between 5:20am – 11pm Saturday, between 8:06am – 7:40pm Sunday, between 8:29am – 6:03pm	Yes	Yes
759	St Marys to Mount Druitt via Ropes Crossing	Monday – Friday, between 5:01am – 9:22pm Saturday, between 7:34am – 9:58pm Sunday, between 8:24am – 8:15pm	Yes	Yes

774	Mount Druitt to Penrith via Nepean Hospital	Monday – Friday, between 5:36am – 11:46pm Saturday, between 7:16am – 10:39pm Sunday, between 7:51am – 10:02pm	Yes	Yes
782	St Marys to Penrith via Werrington	Monday – Friday, between 9:20am – 2:05pm Saturday, between 10:07am – 3:28pm	Yes – Between Penrith Station and Werrington Station only	No
835	WSU Penrith to Prairiewood	Monday – Friday, between 6:04am – 6:15pm	No	No
S11	St Marys to St Clair (Loop Services)	Monday – Friday only, between 9am – 2pm	No	No

Considering existing bus operations, Sunday's closure of Phillip Street is sought to minimise the impact on public transport operations.

Notification to TfNSW Customer Journey Planning has been made, whereby the final details of route diversions required for bus routes 758, 759 and 774 are pending direction from TfNSW.

The pair of bus stops along Phillip Street, west of Glossop Street (Stop ID 2760174 and Stop ID 2760210) may need to be closed on the day of the works, with bus passengers diverted to either the St Marys Station Bus Stop, or to a temporary bus stop location agreed with TfNSW and bus operators for routes 758, 759 and 774.

5.4 Property and Utility Access Impact Management

Access to the residential properties along Glossop Street and Phillip Street will be maintained at all times and access for utilities providers/maintainers will not be impacted.

The traffic controller on the Site access gate will be briefed to direct general traffic when necessary.

5.4.1 Property and Utility Access Impact Management During Tower Crane 1 Works

Access to the existing residential properties affected by the proposed road closure will be managed by traffic controllers on Phillip Street, Station Street and Blair Avenue, where local access will be maintained.

The traffic management arrangements will be communicated both in writing and in person as per the communications protocol of Sydney Metro.

5.5 Cumulative Impacts

SSTOM and SBT will be sharing the construction access off Glossop Street and egress onto Phillip Street during Stage 01 handover. The heavy vehicle volumes for both phases during this stage is well within the EIS traffic peak volumes.

Details of cumulative impact mitigation in Stage 03 handover will be covered in the SBT CTMP update for TBM retrieval.

The FSM team will be accessing their portion of the site in Stage 04 handover from the north and will not need to share the SSTOM site access / egress. They will operate on weekends so their heavy vehicle volume peaks will occur when the SSTOM site have no or very little heavy vehicles.

The SSTOM site superintendent for STM will have weekly meetings with the SBT site superintendent to coordinate heavy delivery dates and use of the site accesses and internal haul road.

Additionally, SSTOM traffic management is an active participant in the TTLG, TCG and the Luddenham Transport Working Group meetings ensuring ongoing monitoring and discussion will occur over the life of the project.

5.5.1 Construction Activities During Tower Crane 1 Works

Consultation with SBT has been undertaken, confirming there are no conflicting works requiring road closures scheduled by SBT for the 28 April 2024 (planned work date), and 12 May 2024 (contingency date).

5.6 Authorised Traffic Controller

Glossop Street site access will have one traffic controller to manage delivery traffic and contractor access at the Site access and be responsible for opening the site gate on Glossop Street starting one hour before construction hours and ending one hour after. The traffic controller will coordinate with the site superintendent to approve deliveries and access.

The Phillip St access through Access Road A will have one traffic controller managing delivery traffic and contractor access at the Site access and be responsible for opening the site gate on Access Road A starting one hour before construction hours and ending one hour after.

Whilst on Site, the responsibilities of the Traffic Controller include:

- Implementation of the Traffic Guidance Scheme.
- Pedestrian and cyclist management, to ensure that adverse conflicts between vehicle movements and pedestrians do not occur.
- Supervision of all loading and unloading of construction materials during the deliveries in the construction phase of the project.

5.6.1 Authorised Traffic Controller During Tower Crane 1 Works

To facilitate the temporary traffic management which will be in place to support the Tower Crane 1 Works, refer to Table 12 for details of traffic controllers requirements and their respective roles at each of the identified locations.

Additional traffic controllers for the installation and maintenance of temporary traffic management devices and to cover breaks during the work shift will be provided.

TABLE 12: SCHEDULE OF TRAFFIC CONTROLLERS REQUIRED FOR TOWER CRANE 1 WORKS

Location	Traffic Controllers Required	Objectives and Responsibilities of Traffic Controllers
Phillip Street, Phillip St / Lethbridge St intersection	3	- Manage local resident vehicular access (1) - Manage heavy vehicle turning movement (1) - Manage pedestrian and cyclists detour (1)

Phillip Street, driveway of 32 Phillip St	2	- Manage hard road closure and facilitate vehicular access to/from 32 Phillip Street (1) - Manage pedestrian and cyclist movements (1)
Phillip Street, Phillip St / Gidley St intersection	3	- Manage soft road closure (1) - Manage hard road closure (1) - Manage pedestrian and cyclists detour (1)
Blair Avenue, Blair Ave / Ross Pl	2	- Manage local resident vehicular access (1) - Manage pedestrian and cyclists detour (1)
Blair Ave, driveway of 34-36 Phillip St	1	- Manage hard road closure and facilitate vehicular access to/from 34 - 36 Phillip Street, and pedestrian and cyclist movements (1)
Lethbridge Street, Lethbridge St / Chesham St intersection	2	- Manage local resident vehicular access (1) - Manage pedestrian and cyclists detour (1)
Station Street, driveway of 3 Station St	1	- Manage hard closure (1)
Lethbridge St / Chapel St intersection	4	- Manage heavy vehicle turning movements at the intersection (4)
Queen St / Chapel St intersection	3	- Manage heavy vehicle turning movements at the intersection (3)

The temporary traffic management arrangement is detailed in TGS and forms part of Appendix G.

6 Parking Management

Refer to St Marys Construction Worker Parking Strategy prepared in accordance with the Sydney Metro – Western Sydney Airport Submissions Report Mitigation Measure T9 for the specifics of the construction worker parking management measures.

Note the diagram below has been included in the induction pack for all SSTOM construction personnel to prevent construction workers from knowingly parking in residential / town centre streets.

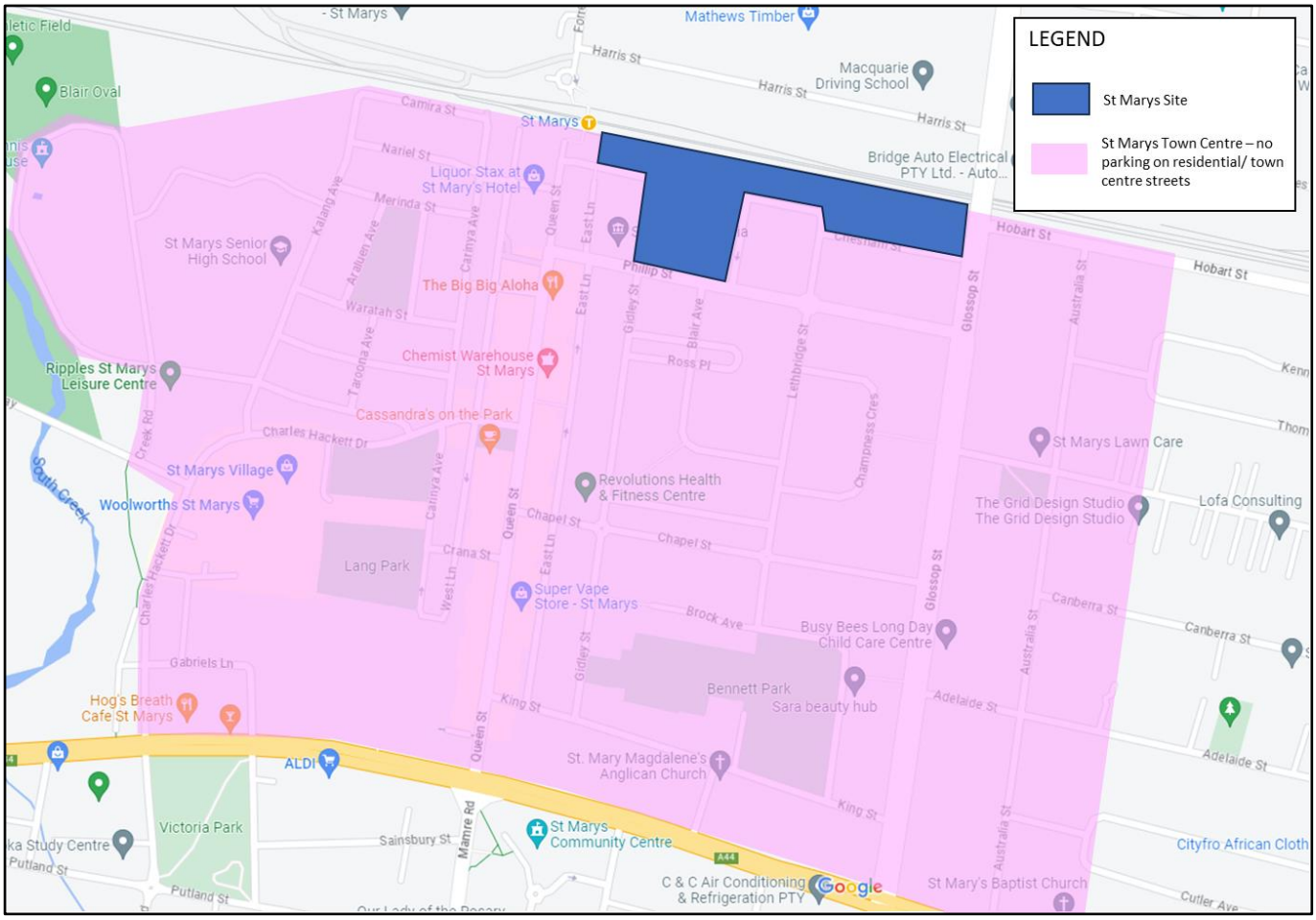
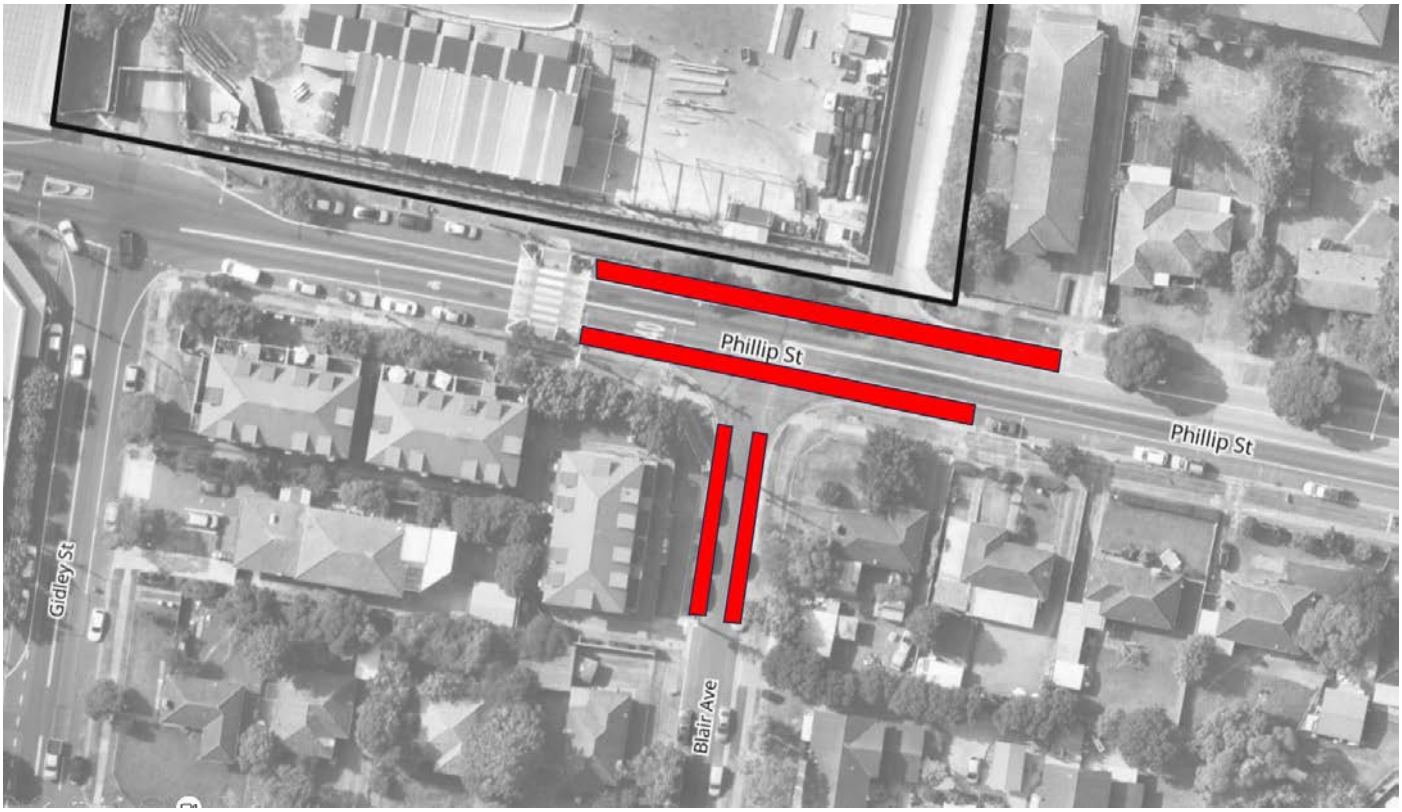


FIGURE 22: STM TOWN CENTRE PARKING MAP

6.1 Parking Management During Tower Crane 1 Works

To facilitate tower crane 1 works, a temporary no-stopping restriction will be required at the intersection of Phillip Street and Blair Avenue, as depicted in Figure 23.

FIGURE 23: TEMPORARY NO STOPPING FOR TOWER CRANE 1 WORK



PLM will place the temporary No Stopping sign tied to bollards along the verge of Phillip Street and Blair Avenue from 6 p.m. on the day before work.

PLM will remove the temporary No Stopping signs and bollards immediately after completing the work.

7 Agency Permits

7.1 Council Permits

No Council permits is required for Station construction within the Site. Note that Station Street is managed by Council and PLM will be taking over SBT's existing occupation of Station Street with compliance to Section 138 Roads Act 1993 and associated fees and conditions.

However, it is noted that PLM D&C is required to apply for the following permits with Council for the following activities which affect Council assets:

- Driveway Construction: Construction of driveways and footpath connections over the Council road reserve including kerb and gutter modifications.
- Road Reserve Occupancy: Temporary occupation or closure of a road reserve for construction or events.
- Road Reserve Opening / Excavation: Surface or deep excavation of the road reserve.
- Construction Work Zone: Dedicated right of access and parking allocation on a local road outside a development.

There is no element of works or traffic management requirements outlined in this CTMP that triggers the Penrith Local Traffic Committee approval process.

7.2 Road Dilapidation Report

Before any local road, i.e. Glossop Streets and Phillip 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 PLM D&C will either (at Penrith City Council's discretion):

- Compensate Penrith City Council for the damage 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.

7.3 OSOM Permits

No OSOM permit is needed for station construction.

7.4 Speed Zone Authorisation Permits

No SZA permit is needed for station construction.

7.4.1 Speed Zone Authorisation for Tower Crane 1 Work

40km/h speed zone reduction is required along Phillip Street, between Glossop Street and Gidley Street, along parts of Lethbridge Street, and parts of Chapel Street. The SZA is required for a single day only to support Tower Crane 1 work.

Refer to TGS in Appendix G for details.

8 Community Notification

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

8.1 Site Contact

The current site contact for the works identified in this CTMP is:

Gareth John (Senior Project Engineer): +61 488 074 111

Sari Allaf (Project Engineer): +61 419 419 695

8.2 Propose Communications

- E-mail notification to Customer Journey Planning at least 5 full working days prior to:
  - handover of site from SBT to SSTOM, and from SSTOM to other contractors to ensure transfer of ROLs and SZAs are undertaken.
  - changes to site contact to coincide with the transfer of CTMP arrangements from SBT to SSTOM.
- Community Notices (Notifications) issued at least 7 days prior to:
  - start of work
  - new work with a new activity that has the potential to impact on stakeholders and the community
  - handover of a construction site to a new contractor
  - activities requiring notification to comply with relevant Environmental Protection Licence (EPL) usually out of hours work.
- Precinct updates/e-update (Newsletters) - published 2x/year and for changes to planning approvals
- Email and internet updates – done with publication and delivery to letterboxes of Notifications and Newsletters.
- Advertisements – published in advance of significant traffic management changes, detours, traffic disruptions
- Advance warning sign – as noted in the CTMP, where required

Table 13 provides the proposed communications to be implemented for this CTMP.

TABLE 13: PROPOSED COMMUNICATIONS

Notification	Stage 01
Community Notice	Yes
Precinct Update / e-updated	Yes
Email	Yes
Internet	Yes

Print Advertising	Yes
Advance Warning Sign	Yes

8.2.1 Proposed Communications for Tower Crane 1 Work

The communications of the temporary traffic management arrangement to support tower crane 1 work are detailed in Table 14.

TABLE 14: PROPOSED COMMUNICATIONS

Notification	Timing of Notification	Content of Notification Relevant to Traffic	Target Audience
Monthly construction update	Late March 2024		Property occupiers within 200m of site
OOHW notification	7–14 days in advance of the work	Road closure information	Property occupiers within 200m of site
OOHW specific notification	7-14 days in advance of the work	Targeted road closure information with diagrams	Highly impacted residents and businesses
Temporary corflute signage	7 days in advance of the work	General notification of upcoming road closures	Phillip Street, Lethbridge Street, Gidley Street, Blair Avenue, Chapel Street
Consultation with key stakeholders and notification to Emergency Services	Four weeks before works commence	Detailed notification of road closures	

8.3 Travelling Public

Where the SSTOM works will impact on the travelling public, PLM D&C will undertake the following communications:

- 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).
- Public transport interruptions will be communicated via on site signage.
- Active transport users will be provided with advance warning signs.

8.4 Variable Message Signs

Variable messages signs are required for taking over the Speed Zone Authorisation Permit. PLM will confirm the VMS strategy on site with CJP prior to SZA takeover. If any additional VMSs are required for OSOM deliveries to this site in, the VMS strategy and messages will be forwarded to CJP for comment prior to installation.

If they are required at any stage of the project, they will be installed 7 days prior to any change to existing traffic conditions and per TfNSW “Instructions for the use of portable variable message signs: May 2021”.

8.5 Stakeholders

PLM D&C will liaise with relevant stakeholders regarding all relevant construction traffic management measures and will raise any potential conflict with stakeholder at the earliest time.

This will be done through the following groups:

- Traffic and Transport Liaison Group (TTLG)
- Traffic Control Group (TCG)

There are a number of stakeholders PLM D&C will consult with during the development of this CTMP:

- Customer Journey Planning (CJP)
- Sydney Metro project team
- Penrith City Council (PCC)
- Transport for NSW (TfNSW)

A copy of their review comments will be provided in Appendix D.

9 Monitoring and Review

9.1 Road Safety Audit

Road safety audits will be undertaken on this CTMP as noted in the section 10 of the Construction Traffic Management Framework. A copy of the road safety audits will be provided in Appendix E in Revision B.

9.2 Monitoring Program

This CTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by a holder of a SafeWork NSW "Prepare a Work Zone Traffic Management Plan" or equivalent. Review of the CTMP shall occur monthly. All and any reviews undertaken should be documented, however key considerations regarding the review of the CTMP shall be:

- Tracking deliveries against the volumes outlined within report. Deliveries will be tracked against approved volumes and will keep a vehicle log - including Rego & time of entry - for the purpose of assessing the effectiveness of these monitoring programs.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TGS's are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" card holders to ensure they remain consistent with the set-up on-site.

The development of a program to monitor the effectiveness of this CTMP shall be established by the Contractor. This process is expected to form part of the monitoring plan required to be included as part of the overarching Construction Environmental Management Plan (CEMP), of which this CTMP forms a part.

The roadway (including footpath) will be kept in a serviceable condition for the duration of construction. At the direction of Council, undertake remedial treatments such as patching at no cost to Council.

9.3 Work Site Inspections, Recording and Reporting

Recording and reporting of the monitoring programs shall be done in accordance within the TCAWs Manual. As such, the structure, schedule and frequency of these activities have been considered and identified.

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

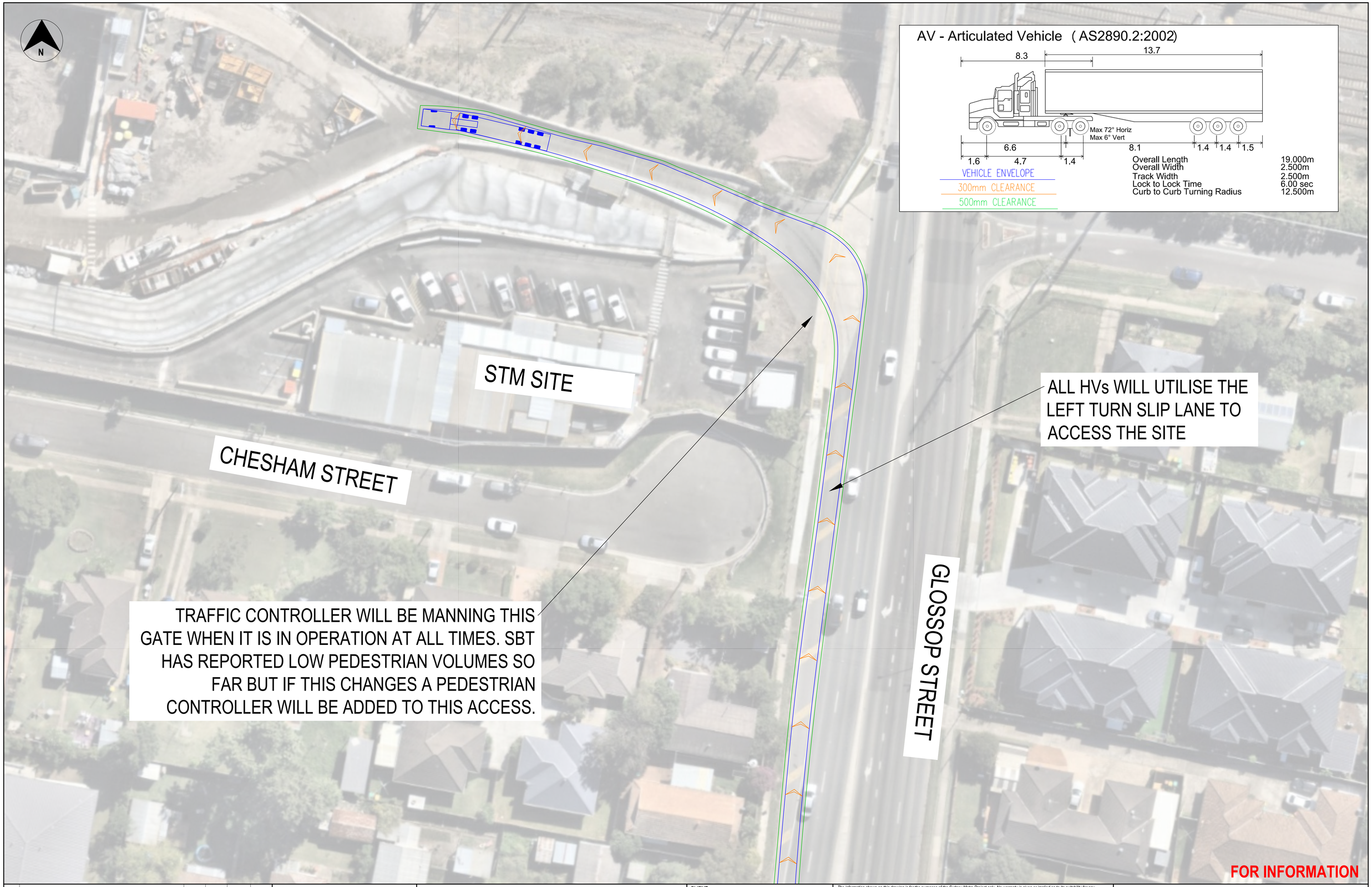
- TGS Verification
- Shift / Daily
- Weekly
- Post Completion
- Portable VMS / VSLS (when required)

All inspection forms per TCAWS 6.1 Appendix E will be uploaded into the GLAASS safety system for all site inspection purposes and data retained for monitoring.

9.4 Environmental Maintenance

All works will be undertaken in accordance with the SSTOM works Site Establishment Management Plan and associated procedures and the Construction Environmental Management Plan and associated sub plans. The SSTOM 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).

Appendix A Swept Path Assessment



REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

SCALE:

Co-ordinate System:

Height Datum:

This sheet may be prepared using colour and may be incomplete if copied

NOTE: Do not scale from this drawing.

CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

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DESIGNED
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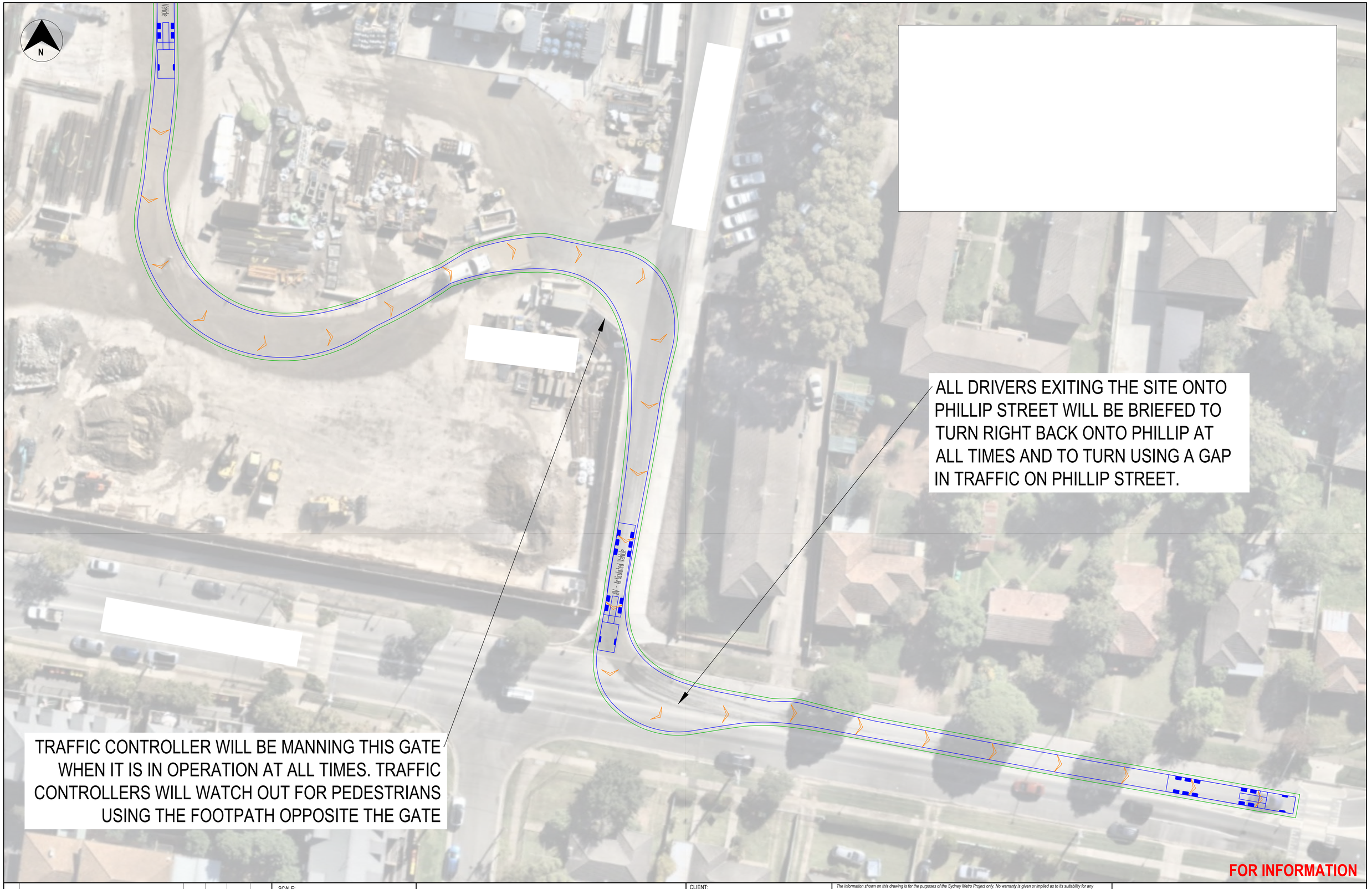
APPROVED

FILE No:
SHEET: OF ©
STATUS:
EDMS No:
DRG No:
REV
VER



FOR INFORMATION

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SCALE:

Co-ordinate System: | Height Datum: | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

DRAWN
DESIGNED
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DESIGN CHECK
APPROVED

FILE No: | SHEET: OF | ©
STATUS: | EDMS No:
DRG No: | REV | VER

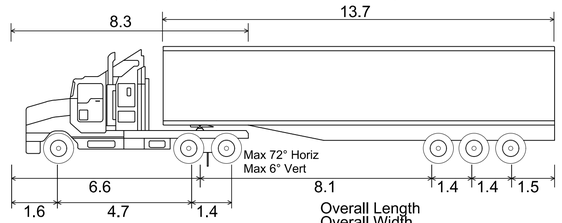
N

LETHBRIDGE STREET

PHILLIP STREET

AV Articulated Vehicle

AV - Articulated Vehicle (AS2890.2:2002)



VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	19.000m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

FOR INFORMATION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

SCALE:

Co-ordinate System:

Height Datum:

This sheet may be prepared using colour and may be incomplete if copied

NOTE: Do not scale from this drawing.

CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

DRAWN
DESIGNED
DRG CHECK
DESIGN CHECK
APPROVED

FILE No:
SHEET: OF
©
STATUS:
EDMS No:
DRG No:
REV
VER

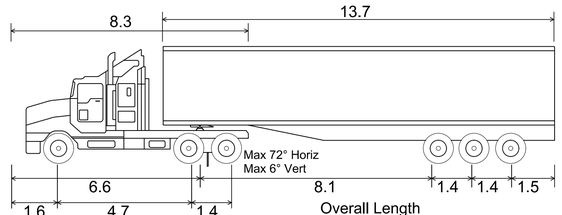
THE TWO EASTBOUND LANES ON PHILLIP STREET AT THE GLOSSOP STREET INTERSECTION ARE LEFT TURN ONLY AND RIGHT TURN ONLY. DRIVERS ARE TO TURN RIGHT ONLY SOUTHBOUND ON GLOSSOP STREET.

PHILLIP STREET

GLOSSOP STREET

AV - Articulated Vehicle

AV - Articulated Vehicle (AS2890.2:2002)



VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	19.000m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

FOR INFORMATION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

SCALE:

Co-ordinate System: | Height Datum: | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

DRAWN
DESIGNED
DRG CHECK
DESIGN CHECK
APPROVED

FILE No: | SHEET: OF | ©
STATUS: | EDMS No:
DRG No: | REV | VER

100mm AT FULL SIZE Plot Date & Time: Plot Date: 26/07/23 - 18:05 Cad File: C:\Users\WendyZheng\OneDrive - Parklife JV\Documents\05. St Marys\cad\SMWSASSM-PLD-SWD-DE-TMP-000002_STM.dwg

N

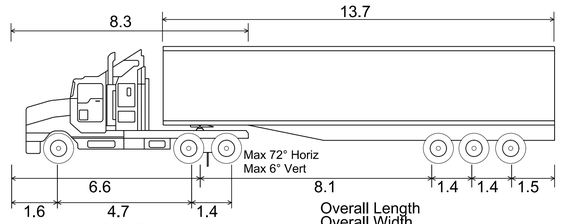
GLOSSOP STREET

GREAT WESTERN HIGHWAY

AV - Articulated Vehicle

AV - Articulated Vehicle

AV - Articulated Vehicle (AS2890.2:2002)



VEHICLE ENVELOPE
300mm CLEARANCE
500mm CLEARANCE

Overall Length	19.000m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
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FOR INFORMATION

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SCALE:

CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

DRAWN
DESIGNED
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DESIGN CHECK
APPROVED

Co-ordinate System:

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NOTE: Do not scale from this drawing.

FILE No:
SHEET: OF
STATUS:
EDMS No:
DRG No:
REV
VER

Appendix B Traffic Guidance Scheme

Installed as per TGS and in accordance with any changes, as shown on TGS.

Team leader (on site):

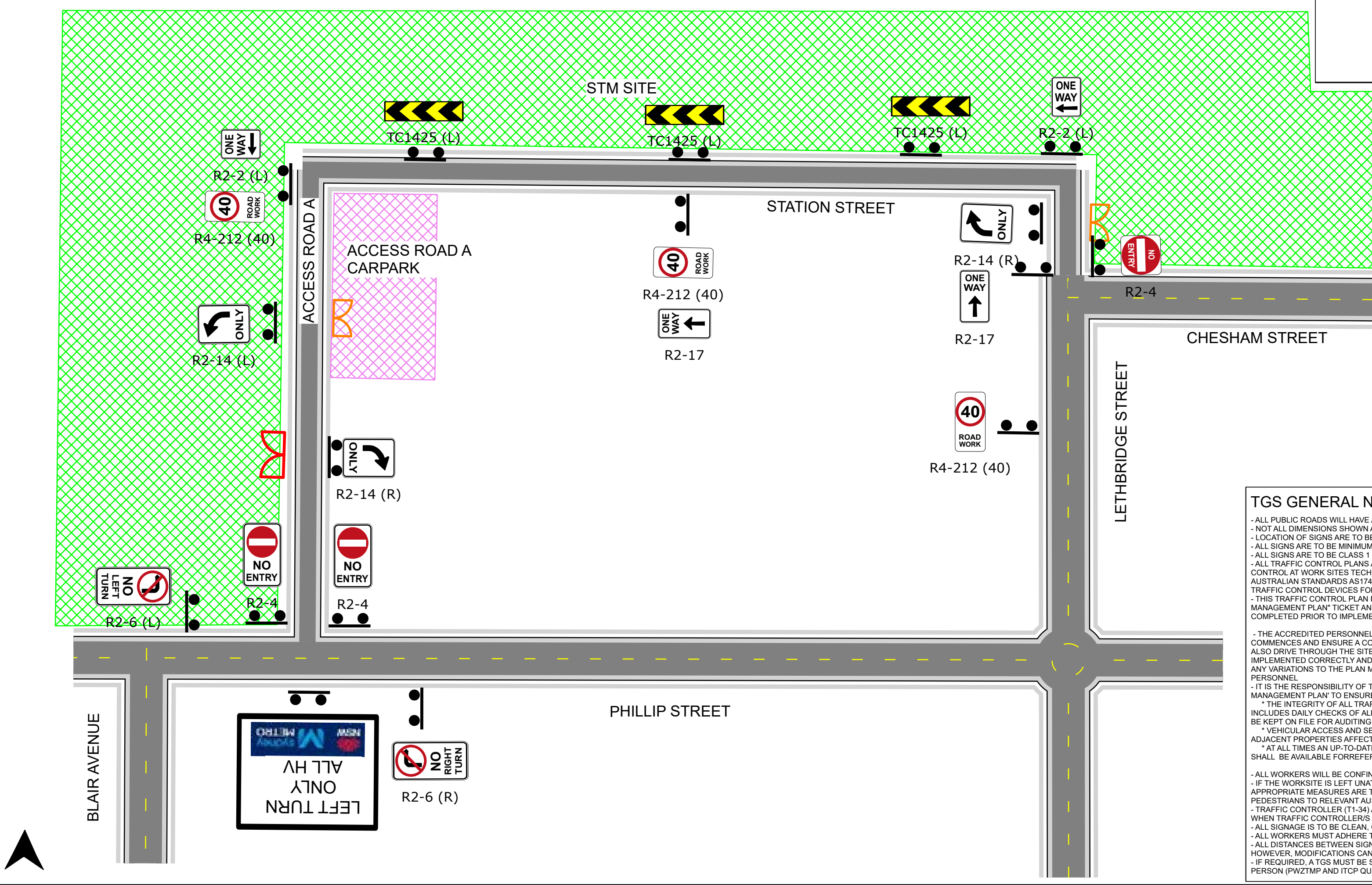
Signature:

Date:

Ticket No:

Reason for modification:

Designer	Approver
Full Name: Wendy Zheng Role: Traffic Manager Division / Organisation: WeBuild SafeWork NSW Card Number: TCT1015144 Signature: Date: 25/08/2023	Full Name: Dora Choi Role: Traffic Engineer Division / Organisation: WeBuild SafeWork NSW Card Number: TCT10021456 Signature: Date:25/08/2023



Key:

- Site vehicle gate (LV only)
- Site vehicle gate (HV only)
- Sign and post
- Traffic Controller

TGS GENERAL NOTES

- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
- NOT ALL DIMENSIONS SHOWN ARE TO SCALE
- LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY
- ALL SIGNS ARE TO BE MINIMUM SIZE A
- ALL SIGNS ARE TO BE CLASS 1 RETROREFLECTIVE
- ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH TFNSW'S TRAFFIC CONTROL AT WORK SITES TECHNICAL MANUAL ISSUE 6.1 (RELEASED 2022), AMENDMENT TD 00003:2022 AND AUSTRALIAN STANDARDS AS1742.3:2019 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS
- THIS TRAFFIC CONTROL PLAN MUST BE SET UP BY A PERSON HOLDING AN "IMPLEMENT TRAFFIC MANAGEMENT PLAN" TICKET AND TFNSW'S TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION

- THE ACCREDITED PERSONNEL SHALL IMPLEMENT THE APPROVED TGS BEFORE ANY PHYSICAL WORK COMMENCES AND ENSURE A COPY OF THE TGS IS KEPT ON-SITE. THE ACCREDITED PERSONNEL SHALL ALSO DRIVE THROUGH THE SITE BEFORE WORKS BEGIN TO ENSURE THAT THE TGS HAS BEEN IMPLEMENTED CORRECTLY AND THAT THE IT WILL WARN, INSTRUCT AND GUIDE ROAD USERS AS DESIGNED. ANY VARIATIONS TO THE PLAN MUST BE MARKED ON THE PLAN AND INITIALED BY THE ACCREDITED PERSONNEL
- IT IS THE RESPONSIBILITY OF THE AN ACCREDITED PERSONNEL WITH A 'PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN' TO ENSURE THE FOLLOWING:
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  * VEHICULAR ACCESS AND SAFETY CROSSING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
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AMENDMENTS

REV	DATE	DESCRIPTION	DRW	CHK	APP
01	25.08.23	TGS STM STATION STREET LOOP	WZ	WZ	DC
DFT	26.07.23	TGS STM STATION STREET LOOP	WZ	WZ	DC

GENERAL NOTES

DESIGNED: WENDY ZHENG	PAPER SIZE: A3
CHECKED BY: WENDY ZHENG	DATE: 26.07.2023
APPROVED BY: DORA CHOI	SCALE: NTS

CLIENT

PROJECT

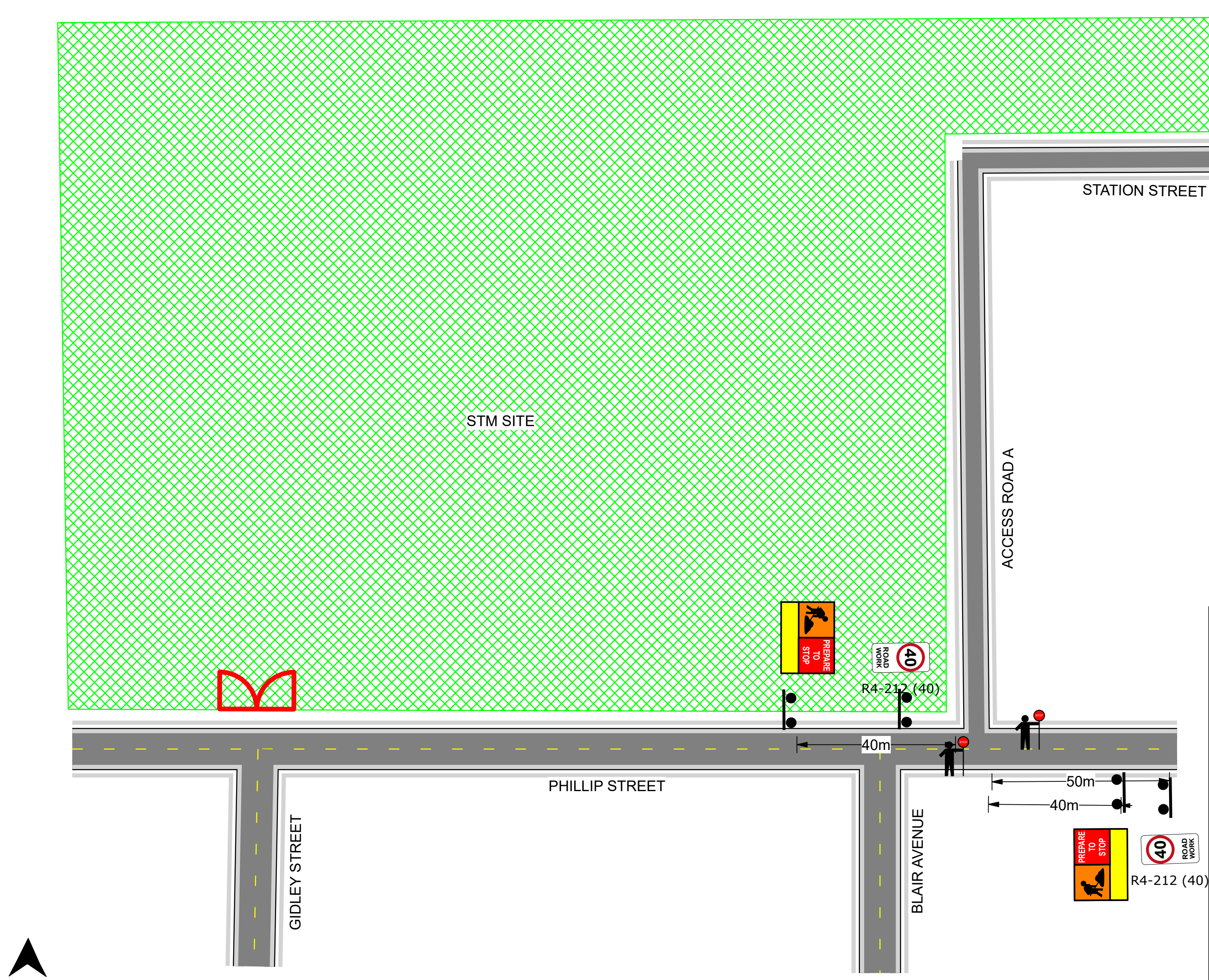
Sydney Metro - Western Sydney Airport

DOCUMENT INFORMATION

ST MARYS STATION

STATION STREET ONE WAY - TRAFFIC GUIDANCE SCHEME

DRAWING STATUS	FILE NAME	SHEET
REV 01	SMWSASSM-PLD-STM-SF-TF-000001	01



Installed as per TGS and in accordance with any changes, as shown on TGS.

Team leader (on site):

Signature:

Date:

Ticket No:

Reason for modification:

Designer	Approver
Full Name: Wendy Zheng Role: Traffic Manager Division / Organisation: WeBuild SafeWork NSW Card Number: TCT1015144 Signature: Date: 25/08/2023	Full Name: Dora Choi Role: Traffic Engineer Division / Organisation: WeBuild SafeWork NSW Card Number: TCT10021456 Signature: Date:25/08/2023

SIGNS ASSOCIATED WITH THIS TGS TO BE COVERED WHEN 19m AV EGRESS NOT REQUIRED FROM ACCESS ROAD A

Key:

- Site vehicle gate (LV only)
- Site vehicle gate (HV only)
- Sign and post
- Traffic Controller

TGS GENERAL NOTES

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AMENDMENTS

REV	DATE	DESCRIPTION	DRW	CHK	APP
DFT	25.08.23	ACCESS ROAD A / PHILLIP STREET EGRESS	WZ	WZ	DC

GENERAL NOTES

DESIGNED: WENDY ZHENG	PAPER SIZE: A3
CHECKED BY: WENDY ZHENG	DATE: 25.08.2023
APPROVED BY: DORA CHOI	SCALE: NTS

CLIENT

PROJECT

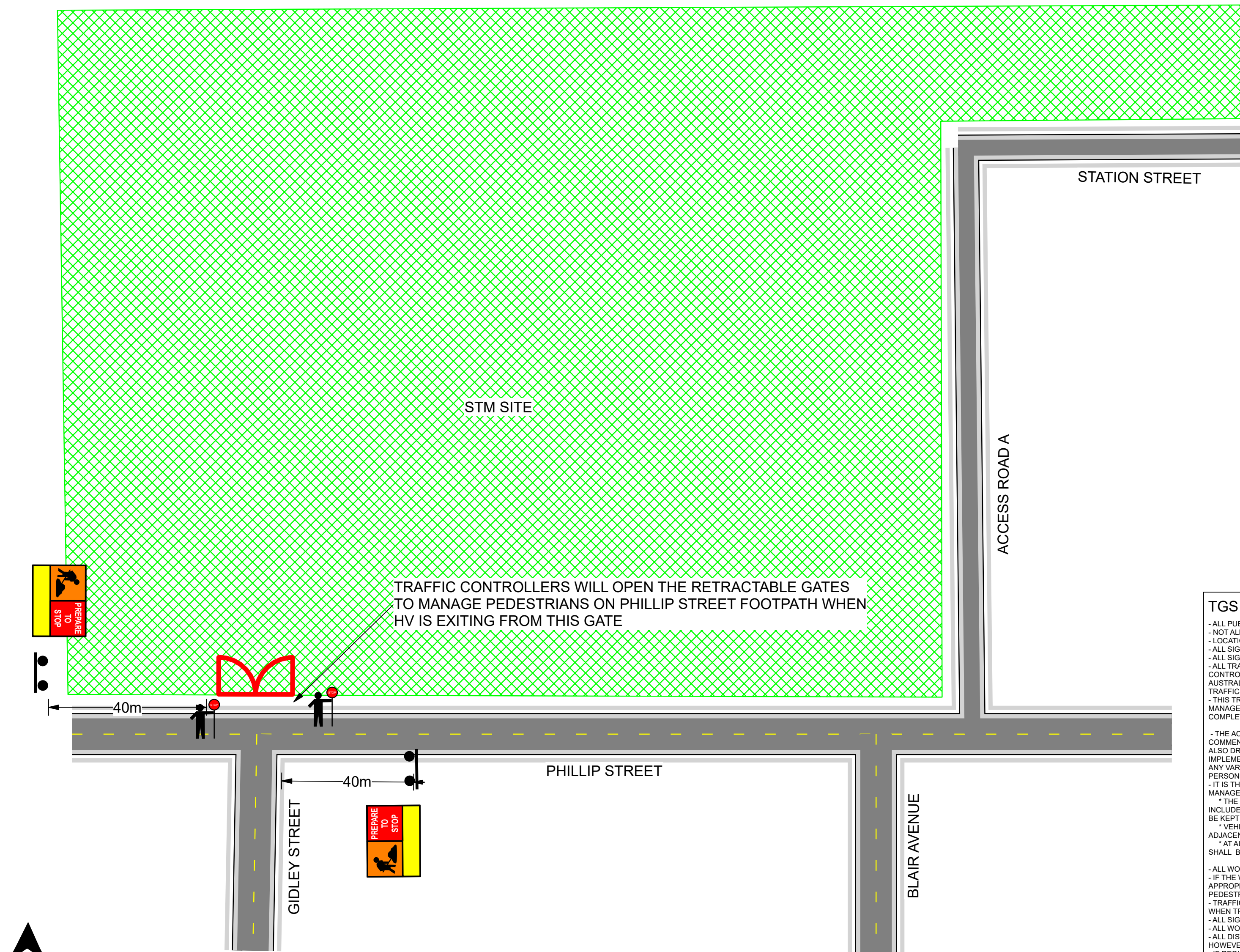
Sydney Metro - Western Sydney Airport

DOCUMENT INFORMATION

ST MARYS STATION

ACCESS ROAD A / PHILLIP STREET TGS

DRAWING STATUS	FILE NAME	SHEET
DRAFT	SMWSASSM-PLD-STM-SF-TF-000001	01



Installed as per TGS and in accordance with any changes, as shown on TGS.

Team leader (on site):

Signature:

Date:

Ticket No:

Reason for modification:

Designer	Approver
Full Name: Wendy Zheng Role: Traffic Manager Division / Organisation: WeBuild SafeWork NSW Card Number: TCT1015144 Signature: Date: 25/08/2023	Full Name: Dora Choi Role: Traffic Engineer Division / Organisation: WeBuild SafeWork NSW Card Number: TCT10021456 Signature: Date:25/08/2023

SIGNS ASSOCIATED WITH THIS TGS TO BE COVERED WHEN THIS ACCESS IS NOT IN USE

Key:

- Site vehicle gate (LV only)
- Site vehicle gate (HV only)
- Sign and post
- Traffic Controller

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AMENDMENTS

REV	DATE	DESCRIPTION	DRW	CHK	APP
DFT	25.08.23	SECONDARY HV EGRESS (OPPOSITE GIDLEY)	WZ	WZ	DC

GENERAL NOTES

DESIGNED	PAPER SIZE
WENDY ZHENG	A3
CHECKED BY	**DATE**
WENDY ZHENG	25.08.2023
APPROVED BY	**SCALE**
DORA CHOI	NTS

CLIENT

PROJECT

Sydney Metro - Western Sydney Airport

DOCUMENT INFORMATION

ST MARYS STATION

GIDLEY STREET HV EGRESS TGS

DRAWING STATUS	FILE NAME	SHEET
DRAFT	SMWSASSM-PLD-STM-SF-TF-000001	01

Appendix C Risk Assessment

Sydney Metro WSA – Stabling and Maintenance Facility

Risk Assessment and Communication Tool

Site Name	St Marys Station
Site Location	Glossop Street, Phillip Street
Date of Assessment	25 July 2023
Revision	Issue I

Document Control			
Date Issued	Revision	Issued By	Checked By
25/07/2023	Issue I	W. Zheng	D. Odobasa

Risk Matrix							
Impact / Likelihood		Insignificant	Minor	Moderate	Major	Severe	Catastrophic
		C6	C5	C4	C3	C2	C1
Almost certain	L1	8	19	27	29	34	36
Very Likely	L2	7	18	21	28	31	35
Likely	L3	6	11	20	23	30	33
Possible	L4	4	10	13	22	25	32
Very Unlikely	L5	3	9	12	15	24	26
Rare	L6	1	2	5	14	16	17

Risk Consequences						
	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
	C6	C5	C4	C3	C2	C1
Health and Safety	Illness, first aid or injury not requiring medical treatment.	Illness or minor injuries requiring medical treatment.	Single recoverable lost time injury or illness, alternate/restricted	1-10 major injuries requiring hospitalisation and numerous days lost,	Single fatality and/or 10-20 major injuries/permanent	Multiple fatalities and/or >20 major injuries/permanent

			duties injury, or short-term occupational illness.	or medium-term occupational illness.	disabilities/chronic diseases.	disabilities/chronic diseases.
Environment	No appreciable changes to environment and/or highly localised event.	Change from normal conditions within environmental regulatory limits and environmental effects are within site boundaries.	Short-term and/or well-contained environmental effects. Minor remedial actions probably required.	Impacts external ecosystem and considerable remediation is required.	Long-term environmental impairment in neighbouring or valued ecosystems. Extensive remediation required.	Irreversible large-scale environmental impact with loss of valued ecosystems.

Likelihood		**One off event (How likely?)**		**Repeated (How often?)**
Almost certain	L1	Expected to occur frequently during time of activity or project.	> 90%	10 times or more every year
Very Likely	L2	Expected to occur occasionally during time of activity or project.	75 - 90 %	1-10 times every year
Likely	L3	More likely to occur than not occur during time of activity or project.	50 - 75 %	Once each year
Possible	L4	More likely not to occur than occur during time of activity or project.	25 - 50 %	Once every 1 to 10 years
Very Unlikely	L5	Not expected to occur during the time of activity or project.	5 - 25 %	Once every 10 to 100 years
Rare	L6	Not expected to ever occur during time of activity or project.	< 5 %	Less than once every 100 years

Risk Assessment and Communication Tool

ID. Ref	Risk and/ or Hazard	Risk Description	Location	Existing Control	Initial Risk Rating			Design Response to risk and /or hazard	Status of Risk	Assignment of risk or hazard	Residual risk rating		
					L	I	RR				C	L	RR
1	Unauthorized Access to the Site	Site prevents unauthorised access	Entire Site	Nil	L3	C2	High 28	Boundary fence will be provided as part of the main works. The design provides a defined separation between public areas and work area. Admin area is located in front of the site to minimise unauthorised visitor access	Design Solution	Main Contractor	L6	C2	Low 16
2	Interaction between pedestrians / cyclists and vehicles	Vehicles and pedestrians /cyclists to be separates as best possible	Entire Site & Access Roads	Nil	L3	C1	High 33	Dedicated footpath, pedestrian crossings and additional signage shall be provided to separate vehicles and pedestrians as best possible.	Design Solution	Main Contractor	L6	C2	Low 16
3	Potential vehicle conflict points	Vehicles can crash with each other while manoeuvring through the site	Entire Site & Access Roads	Nil	L4	C1	High 32	One-way manoeuvring around the site limits any interaction for oncoming vehicles to the access only, coupled with low speeds throughout the site.	Operational Solution	Main Contractor	L6	C2	Low 16

4	Fatigue	Injury caused by fatigue	Entire Site	Nil	L3	C2	High 30	Toolbox meetings and regular breaks (in line with WHS practices) to minimise fatigue	Operational Solution	Main Contractor	L6	C2	Low 16
5	Fall risks	Injury due to falls (in general)	Entire Site	Nil	L4	C1	High 32	Ensuring level changes across the site to be minimised as best possible, with additional black & yellow hazard tape/marking being installed where appropriate. Installation of handrails where level changes / ramps grades are significant.	Design Solution	Main Contractor	L6	C2	Low 16
6	Misdirected access in to neighbouring site	Vehicle in unsafe locations	Entire Site	Nil	L4	C3	Medium 22	Ensuring appropriate directional signage has been provided to ensure vehicles do not access the wrong construction site, which could create potential safety breaches and hazards for all partied	Design Solution	Main Contractor	L5	C4	Low 12
7	Conflicting Traffic Management	Coordinating Traffic Controllers could create misleading	Entire Site	Nil	L4	C3	Medium 22	Toolbox meetings, regular liaison with all construction teams and review of signage plans on site	Operational Solution	Main Contractor	L5	C4	Low 12

		and wrong advice						in order to minimise contradicting signage.					
8	Vehicle crash into barrier system resulting in serious injury or fatality.	Sub-standard barrier and hoarding system along Station Street, and at the intersection of Lethbridge St / Station St. Steep batter.	Along northern edge of Station Street.	Concrete jersey barrier with hoarding attached. System do not fully align with plans provided by Sydney Metro.	L4	C1	Catastrophic 32	Add additional barrier system at the intersection of Lethbridge St / Station St if possible to provide additional safety buffer. Seek crash test and risk assessment details from SBT Contractor.	Design Solution Operational Solution	Main Contractor	L5	C4	Low 12

Appendix D Stakeholder Comments

NO.	DATE	COMPANY	RAISED BY	REVIEW DOC. NO.*	DOCUMENT REF*	DEED REF*	COMMENTS / RESPONSE	COMMENT CATEGORY*	LINKED ITEM NO	CLOSED OUT
01	31/07/2023	SMD	PBROGAN	SMWSASSM-PLD-STM-TF-PLN-000001	Figure 3.2	CTMF	Figure 3.2 - check the colour coding as GWH is a state road.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Figure 3.2	CTMF	Figure 1 in Section 3.2 of the report updated to reflect Great Western Highway being a State Road, not a Regional Road.	Observation		N
02	31/07/2023	SMD	PBROGAN	SMWSASSM-PLD-STM-TF-PLN-000001	General	CTMF	Please include a statement clarifying whether or not any aspect of the works covered in this CTMP requires referral via the local traffic committee.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	General	CTMF	Additional text included in Section 7.1 of the CTMP clarifying no element of works / traffic management requirements requires referral via the local traffic committee.	Observation		N
03	1/08/2023	PCC	LVALLEJO				No Comments			Y
	24/08/2023	PLD	WZHENG				It is noted that Penrith City Council has no comments on this CTMP.			Y
04	2/08/2023	TFN	LWILBY	SMWSASSM-PLD-STM-TF-PLN-000001	3.4.3 Vulnerable road users - table 5	NA	The table mentions there are no marked road cycle paths on Phillip Street, however there are a number of cycle stencils on the road indicating likely presence of cyclists. Please consider capturing this in the text.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	3.4.3 Vulnerable road users - table 5	NA	Table 5 of Section 3.4.3 of the CTMP has been updated to accurately reflect that Phillip Street identified as a 'General Roads' in the TfNSW Cycleway Finder.	Observation		N
05	2/08/2023	TFN	LWILBY	SMWSASSM-PLD-STM-TF-PLN-000001	4.4.2 Truck Routes	NA	The final paragraph under Figure 10 is somewhat confusing - when referring to the primary HV egress onto Phillip St please consider changing this to "Access Road A" as then it becomes clearer why it doesn't cross a footpath. Thanks.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	4.4.2 Truck Routes	NA	Wording in the final paragraph of Section 4.4.2 of the CTMP updated to clarify use of Access Road A in lieu of Phillip Street.	Observation		N
06	2/08/2023	TFN	LWILBY	SMWSASSM-PLD-STM-TF-PLN-000001	5.2 Pedestrian / cyclist management	NA	Other CTMP submitted for St Marys by PLM have shown the use of Be Truck Aware decals along key crossing points on Phillip Street. These provide an important mitigation measure in raising pedestrian awareness of HVs before they step onto the roadway. Please consider adding a graph within this CTMP to show their locations as it helps further reduce the risk of collision from the HV movements associated within this CTMP.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	5.2 Pedestrian / cyclist management	NA	Section 5.2 updated to include additional text concerning the retention of the be truck aware decal, and the decal will be replaced if faded / no longer legible. Figure 11 show the location of the be truck aware decals.	Observation		N
07	2/08/2023	TFN	LWILBY	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix A Swept Path Assessment	NA	The swept path assessment for the right turn from Access Road A to Phillip Street shows the vehicle crossing the centreline, increasing the risk of head on collisions with oncoming motorists. It appears the only mitigation measure at present is driver training. Please consider the use of traffic controllers at this location to manage the movements and mitigate the risk of severe head on collisions with other road users.	Observation		N

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	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix A Swept Path Assessment	NA	An intermittent stop/slow is required to support 19m AV egress movement. Additional TGS provided as part of Revision B CTMP in response to comments received and RSA comments.	Observation		N
08	2/08/2023	TFN	LWILBY	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix E Road Safety Audit	CTMF requirements	Noted section 9.2 indicates a road safety audit will be attached in revision B, however it would be appreciated if this can occur earlier next time so I can make an assessment on the appropriateness of any mitigation measures implemented to address risks raised by the road safety auditors. CTMP not considered compliant until a completed RSA attached.	Actual Non-Compliance		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix E Road Safety Audit	CTMF requirements	RSA attached in Revision B of the CTMP. Comments noted for future CTMPs where RSAs will be commissioned prior to submission of Revision A.	Actual Non-Compliance		N
09	2/08/2023	TFN	LWILBY	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix F Drivers Code of Conduct	NA	Under the second dot point to minimise conflict with other road users, please consider specifically calling out pedestrians and cyclists given this location is next to a town centre and those road user groups pose the most likely source of severe injury collisions. Thanks.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix F Drivers Code of Conduct	NA	The Drivers Code of Conduct has been revised, specifically calling out peestrians and cyclists due to town centre location. Refer to Appendix F	Observation		N
10	4/08/2023	SMD	PBROGAN	SMWSASSM-PLD-STM-TF-PLN-000001	Table 9	CTMF	Table 9 - Make it clear whether these movements are two way, that is, does the Feb 2024 bar chart figure of "90" represent 45 vehicles in and 45 vehicles out ?	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Table 9	CTMF	Wording in the final paragraph of Section 4.4.2 of the CTMP updated to clarify use of Access Road A in lieu of Phillip Street.	Observation		N
11	7/08/2023	TFN	QMINHLA	SMWSASSM-PLD-STM-TF-PLN-000001	Section 3.4.1 Table 3	N/A	KH - Mamre Road is not included in the Local Road Network table, the GWH and M4 off ramp to Mamre Rd are included but not Mamre Rd	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Section 3.4.1 Table 3	N/A	Table 3 in Section 3.4.1 of the CTMP updated to include Mamare Road, between M4 off-ramp and Great Western Highway.	Observation		N
12	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.1	N/A	SP - Fig.7 Please update/fine tune the map to replicate actual status (Blair Ave is a road with public access?)	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.1	N/A	The architectural plan base and aerial map base of Figure 7 is accrurate. 'Blair Avenue' between Phillip Street and Station Street no longer exist for public road access. See figure 8 for the current Access Road A / Philip St intersection configuration.	Observation		N
13	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.1	N/A	SP - Both primary & secondary HV egresses to Phillips Street are operating at the same time or each will be operated at different times?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.1	N/A	The secondary HV egress to Philip Street will be operational only for OSOM vehicle egress. Due to the constrained nature of the St Marys site, when an OSOM vehicle is exiting the site through the secondary egress, the primary egress will not be in use.	Observation		N
14	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.4.1	N/A	SP - Projected daily heavy vehicle volumes - are all of them 19m AVs or is there any data (breakdown) to represent AVs & other HVs?	Observation		N

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	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.4.1	N/A	Refer to the updated Section 5.1 of the CTMP with additional breakdown of projected heavy vehicle volumnes, in particular, 19m AVs and other HVs.	Observation		N
15	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.4.2	N/A	SP - Is there any arrangement/methods (i.e. warning signs fixed on the pedestrian walkways) to notify the pedestrians in Phillip Street & Glossop Street about on-coming/crossing heavy and construction vehicles?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.4.2	N/A	Be Truck Aware decals retained along Phillip Street per Figure 11 and Section 5.2 of the CTMP. Along Glossop Street, the existing access had yellow line marking installed and the Traffic Controller hut is located adjacent to the access driveway, whereby the Traffic Controller will manage pedestrian movements when heavy vehicle access is required.	Observation		N
16	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.4.2	N/A	SP - "The Primary HV Egress onto Phillip Street will not cross any footpaths ...." - is that Phillips Street or Leithbridge Street?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.4.2	N/A	Wording in the final paragraph of Section 4.4.2 of the CTMP updated to clarify use of Access Road A in lieu of Phillip Street. See updated Figure 7 and new Figure 8 for clarification.	Observation		N
17	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.5.2	N/A	SP - Are pedestrian controllers available in all three access and egress points (Glossop Street, primary Phillips St & secondary Phillips St)?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.5.2	N/A	Traffic controllers are available at Glossop Street entry. When 19m AV egress are required at Access Road A, additional 2 traffic controllers will be available to manage traffic on days when 19m AV egress are planned and required. The secondary gate in Phillip Street will have traffic controllers and pedestrian controller on days when OSOM egress are planned.	Observation		N
18	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.5.3	N/A	SP - the party who updates the stage 3 CTMP may coordinate with other responsible and active (responsible) contractors for better clarity and effectiveness please	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 4.5.3	N/A	Stage 3 CTMP for TBM extraction forms part of the SBT works. Any updating of CTMP associated with TBM extraction will be prepared by SBT.	Observation		N
19	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 5.1	N/A	SP - Are there going to be any established communications protocol (i.e two-way radios etc) in-between traffic controllers in the accessing gate & HV drivers when reaching the Glossop St HV entry point to avoid queuing?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 5.1	N/A	Yes the vehicles that deliver to the site will be fitted with two-way radio supplied by SSTOM, where communications with the traffic controllers and site engineers can be established and maintained.	Observation		N
20	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Section 6	N/A	SP - Fig.11 - we presume that construction workers will be well emphasised about the parking restrictions in the whole pink coloured area in the map (St. Mary's town centre - no parking on residential / town centre streets) without focusing only on the roads marked in red as "no contractor parking permitted".	Observation		N

NO.	DATE	COMPANY	RAISED BY	REVIEW DOC. NO.*	DOCUMENT REF*	DEED REF*	COMMENTS / RESPONSE	COMMENT CATEGORY*	LINKED ITEM NO	CLOSED OUT
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Section 6	N/A	Figure 12 (previously Fig. 11) has been included in the induction pack for all SSTOM construction personnel, emphasising parking is not available within the pink area on the map and along roadways marked red as per text in Section 6 of the CTMP.	Observation		N
21	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Appendix B	N/A	SP - Do you have separate TGS' to demonstrate the Glossop St entry area?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Appendix B	N/A	As there is no change to the existing Glossop Street entry area from the existing arrangement established by SBT, no separate TGS provided for Glossop Street entry area.	Observation		N
22	9/08/2023	TFN	QMINHLA	SMWASSSM-PLD-STM-TF-PLN-000001	Appendix B	N/A	SP - TGS - Isn't it required to include advance pedestrian notification (i.e. heavy vehicle ahead, construction vehicle crossing etc.) for better clarity or do you have separate diagrams for showing said notifications / signages?	Observation		N
	24/08/2023	PLD	WZHENG	SMWASSSM-PLD-STM-TF-PLN-000001	Appendix B	N/A	Advanced pedestrian notifications formed part of SBT's CTMP approval and already implemented and audited indepently.	Observation		N
23	10/08/2023	TFN	FLARUE	SMWSASSM-PLD-STM-TF-PLN-000001	4.5.3	NA	Separate CTMPs and/or addendums will need to be submitted for Stage 03 to detail the shared site arrangements between SSTOM and SBT. Any future approval of this CTMP will exclude this stage.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	4.5.3	NA	A separate CTMP will be submitted by SBT for TBM retrieval in Stage 03, whereby shared site arrangmeents between SSTOM and SBT will be detailed.	Observation		N
24	10/08/2023	TFN	FLARUE	SMWSASSM-PLD-STM-TF-PLN-000001	4.5.4	NA	Will the FSM works be seperated from SSTOM works? Is there any interaction between the two that needs to be discussed in a future CTMP and/or addendum?	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	4.5.4	NA	FSM works will be accessed via Harris Street. The FSM contractors has yet to provide a construction methodology and access requirement to the SSTOM team. FSM construction access requirements and any SSTOM interactions should be discussed in the FSM CTMP to be provided by Laing O'Rourke.	Observation		N
25	10/08/2023	TFN	FLARUE	SMWSASSM-PLD-STM-TF-PLN-000001	8.2	NA	What are the proposed communications for Stages 02 and 04? Noting that Stage 03 comms will be discussed by SBT.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	8.2	NA	Section 8.2 updated to provide notification arrangements with CJP at least 5 working days prior to transfer of main contractor responsible for the implementation of the CTMP to ensure necessary transfer of speed zone authorisation and ROLs take place.	Observation		N
26	10/08/2023	TFN	FLARUE	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix A	NA	The swept path for the left turn from Access Rd A onto Phillip St shows the 19m AV crossing over onto the opposing carriageway. How will this movement be safely managed? Is there a chance an intermittent stop/slow could be required for this? If yes, a TGS should be provided with the traffic impact discussed.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix A	NA	Yes an intermittent stop/slow is required to support 19m AV egress movement. Additional TGS provided as part of Revision B CTMP in response to comments received and RSA comments.	Observation		N
27	10/08/2023	TFN	FLARUE	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix E	NA	There is no RSA provided.	Observation		N

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	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix E	NA	Please find the revised CTMP with RSA attached.	Observation		N
28	10/08/2023	TFN	TNG	SMWSASSM-PLD-STM-TF-PLN-000001	Table 2	-	Please verify Stage 01 start and finish dates.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Table 2	-	We apologise for the error in Table 2 in relation to Stage 1 finish date. Table 2 now updated to reflect correct finish date for Stage 1 works.	Observation		N
29	10/08/2023	TFN	TNG	SMWSASSM-PLD-STM-TF-PLN-000001	Section 6	-	Please advise project's peak parking demands and parking provision.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Section 6	-	Please refer to the St Marys Construction Worker Parking Strategy for details.	Observation		N
30	10/08/2023	TFN	TNG	SMWSASSM-PLD-STM-TF-PLN-000001	Figure 9 & Table 7	-	Has the haulage demands for TBM Retrieval been factored into Figure 9/Table 7? The current forecasted HV volumes seem to reach the EIS limit, raising concerns if demands exceed the assessed scenario (ie EIS). Kindly provide the FSM works schedule. Noted that peak FSM and SSTOM works won't coincide.	Potential Non-Compliance		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Figure 9 & Table 7	-	Please refer to SBT's CTMP update in relation to TBM retrieval haulage demands. Please refer to FSM CTMP for FSM works schedule. It is SSTOM's understanding that SBT and FSM peak haulage demand happens outside of AM and PM peak hours and not expected to affect SSTOM HV volumes.	Potential Non-Compliance		N
31	10/08/2023	TFN	TNG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix B - TGS on pg.42	-	Signage on Phillip St opposite Access Rd A - 'LEFT' TURN ONLY ALL HV' Consider truck warning signs, if yet installed, to alert general traffic about the HV egress point on Phillip St. The frequency of truck exits requires traffic attention.	Potential Non-Compliance		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Appendix B - TGS on pg.42	-	There are existing W5-22 truck warning signs installed along Phillip Street that formed part of SBT's CTMP implementation, which will be retained by SSTOM.	Potential Non-Compliance		N
32	10/08/2023	TFN	TNG	SMWSASSM-PLD-STM-TF-PLN-000001	Swept path on pg.37	-	How often will the 19m AV exits be needed? The operation halts two-way traffic as per the swept path.	Observation		N
	24/08/2023	PLD	WZHENG	SMWSASSM-PLD-STM-TF-PLN-000001	Swept path on pg.37	-	19m AV exits account for 30% of the HV volumes reported in Figure 9 / Table 7 of the CTMP. SSTOM will endeavour to reduce 19m AV egress during peak periods.	Observation		N

Appendix E Road Safety Audit

TRAFFICWORKS™

Traffic Management Road Safety Audit Report

Sydney Metro – Western Sydney Airport

St Marys Station – Stage 01

Project Number 220751
Draft Report 11/08/2023

Client Parklife Metro

Document control record

Document prepared by:

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Document control	
Report title	Sydney Metro – Western Sydney Airport St Marys Station Stage 1
Project number	220751
Client	Parklife Metro
Client contact	Wendy Zheng (0401 969 768)

Revision	**Date issued**	**Revision details / status**	**Prepared by**	**Authorised by**
Draft	11/08/2023	Preliminary draft	Bernard Chan	Paul Mihailidis

TRAFFICWORKS™

Table of Contents

1 Introduction

The Sydney Metro – Western Sydney Airport project involves the construction and operation of a 23 km new metro rail line between St Marys to the north and the Western Sydney Airport Aerotropolis to the south.

Figure 1: Overview of Sydney Metro – Sydney Airport project

Parklife Metro engaged Trafficworks to undertake a road safety audit (RSA) of the site-specific Construction Traffic Management Plan (CTMP) prepared for the St Marys Station. There will be 4 handovers to SSTOM, as outlined below:

- Stage 01 –SSTOM / SBT shared access: 28/09/23 – 01/12/23
- Stage 02 – SSTOM full possession of site: 02/12/23 – March 2024
- Stage 03 – SBT TBM retrieval: 20-week period from March 2024
- Stage 04 – SSTOM has full possession of the site except for portion A-PS8: Jul-Aug 2024.

The focus of this RSA will be for the traffic management measures proposed for the Stage 01, 02 and 04 handovers.

The CTMP will be updated for Stage 03 handover and will be subject to a separate road safety audit.

We conducted this RSA in line with the procedures set out in the Austroads Guide to Road Safety Part 6: Road Safety Audits (2022). For more information, see section 2, Road Safety Audit (RSA) overview.

Both the site and the supporting documentation were reviewed to identify issues that impact road user safety – for more information, see section:

- section 2.6, Supporting information used in the audit
- section 3, Site Description.

Our findings are presented in section 4.

Note that the auditor cannot guarantee that every issue that impacts road user safety has been identified.

2 Road safety audit (RSA) overview

2.1 Audit team

The audit was conducted by:

Paul Mihailidis [BEng (Civil), GradCert Mgt, MIEAust, CPEng, NER]

RSA-03-0796 – Level 3 road safety auditor (lead auditor)

and

Bernard Chan [BEng(Civil)(Hons), CPEng, NER]

RSA-03-1649 – Level 3 road safety auditor (team member)

2.2 Commencement meeting

A commencement meeting was held at the Parklife offices on the morning of Thursday 29 June 2023.

2.3 Inspection

The audit included an inspection of the site during the:

- Morning of 29/06/2023
- Evening of 29/06/2023

The audited sections were inspected on foot as well as a drive-through inspection of public roads. Photos and video footage was captured and has been referenced in the audit findings.

The conditions during the daytime inspection were fine and sunny and at night, the conditions were clear and calm.

2.4 Risk ratings

The findings of this audit have been assigned a risk rating based on the likelihood of a crash occurring, together with the potential severity of that crash. For more information about:

- crash severity – see Appendix 1
- the likelihood/severity risk matrix, see Appendix 2.

The risk ratings adopted for this audit are as follows:

- Extreme – must be corrected regardless of cost

- High – should be corrected or the risk significantly reduced, even if the treatment cost is high
- Medium – should be corrected or the risk significantly reduced, if the treatment cost is moderate, but not high
- Low – should be corrected or the risk reduced if the treatment cost is low
- Negligible – no action required.

Trafficworks also denotes a risk rating of 'Note only' for:

- drafting errors, omissions and issues that are outside the scope of works
- items within the scope of works that do not represent a road safety risk.

2.5 Safe System approach

The basic principles of the Safe System approach are:

- Humans are fallible, and will inevitably make mistakes when driving, riding, or walking.
- Despite this, road trauma should not be accepted as inevitable. No one should be killed or seriously injured on our roads.
- To prevent serious trauma, the road system must be forgiving, so that the forces of collisions do not exceed the limits that the human body can tolerate.

Therefore, as far as is practically possible, infrastructure should be designed, and travel speeds managed, so that crash impact speeds are below the thresholds outlined in Appendixes 1 and 2.

Each road safety issue has been assessed based on:

- its kinetic energy transfer
- the likelihood of a serious injury or fatality occurring assessed against the thresholds outlined in Appendixes 1 and 2.

2.6 Supporting information used in the audit

The following document was used when conducting the audit:

- SSTOM – St Marys Station – Construction Traffic Management Plan, prepared by Parklife Metro D&C. Document no. SMWSASSM-PLD-STM-TF-PLN-000001, Rev A, dated 26/07/2023

2.7 Previous road safety audits

An existing conditions road safety audit for St Marys Station was undertaken on 29/06/2023. The findings from this existing conditions RSA should be considered in addition to this RSA.

3 Site Description

3.1 Existing conditions

The site is located to the south of St Marys Station, north of Phillip Street between Queen Street and Glossop Street. See Figure 1 below.

Figure 1: Subject site

At the time of this audit, the site is occupied by Station Boxes and Tunnelling (SBT) contractors, and the following traffic management has been implemented:

- temporary closure of Station Street between Gidley Street and St Marys Bus interchange
- conversion of Station Street to a one-way westbound arrangement
- one-way access road between Station Street and Phillip Street (Access Road A), including supplementary signage

- heavy vehicle site entry for the Station Boxes and Tunnelling (SBT) works is provided from Glossop Street, and egress is provided onto the access road between Station Street and Phillip Street
- light vehicle entry and egress is provided on Lethbridge Street, just north of Chesham Street

See Table 2 below for a summary of the characteristics of the surrounding road network, at the time of this audit.

Table 2: Road characteristics

Road	Classification	Characteristics	Speed limit
Station Street	local	One way (westbound) 4.8 m wide carriageway	40 km/h
Lethbridge Street	local	9.7 m wide carriageway Kerbisde parallel parking on both sides of the street	50 km/h (south of Chesham St) 40 km/h (north of Chesham St)
Phillip Street	local	13 m carriageway Parallel parking on both sides of the street	40 km/h (west of Blair Ave) 50 km/h (east of Blair Ave)
Glossop Street	local	22 m divided carriageway	60 km/h

3.2 Proposed conditions

The following details the traffic management arrangements proposed as part of all stages of construction handovers:

- site access for all vehicles will be from Glossop Street
- egress for all heavy vehicles (HV) will be via two locations on Phillip Street
- Chesham Street and Lethbridge Street south of Chesham Street will be retained as two-way
- the one-way westbound movement on Station Street and the one-way southbound movement on Access Road A will be retained
- light vehicle (LV) access to the onsite car park north of Chesham Street will be via the existing Glossop Street access (adjacent to but separate from the heavy vehicle access), and egress onto Lethbridge Street
- the on-site car park east of Access Road A will be accessed via a left-in / left-out arrangement, as is in the current conditions

- largest vehicle required will be the 19 m semi-trailer. Regular heavy vehicle deliveries will be undertaken by vehicles up to 12.5 m HRVs
- all construction vehicles will be arriving from and departing to Great Western Highway via Glossop Street / Phillip Street
- a traffic controller will be stationed at the Glossop Street entry to hold pedestrians on the footpath when required
- a traffic controller will be stationed at the primary Phillip Street egress point
- at least one pedestrian controller and a traffic controller will manage access at the Phillip Street secondary egress
- construction works will occur between 7 am – 6 pm Mon-Fri and 8 am – 1 pm Saturday.

Stage 01 handover

During the Stage 01 handover, the following arrangements will be in place:

- SSTOM and SBT will share the Glossop Street HV access, the Phillip Street HV egress and the internal haul road
- SBT will operate at night / out of hours, and SSTOM will operate within construction hours
- SBT will not have LV access during this stage.

Stage 02 handover

During the Stage 01 handover, the following arrangements will be in place:

- the entire site will be handed over to SSTOM
- a traffic controller will be stationed on the Glossop Street and Phillip Street accesses at all times
- no visitor parking will be allowed on site at any time.

Stage 04 handover

- no further information has been provided for the traffic management arrangements following the Stage 04 handover, and it is understood the site will operate as per Stage 02.

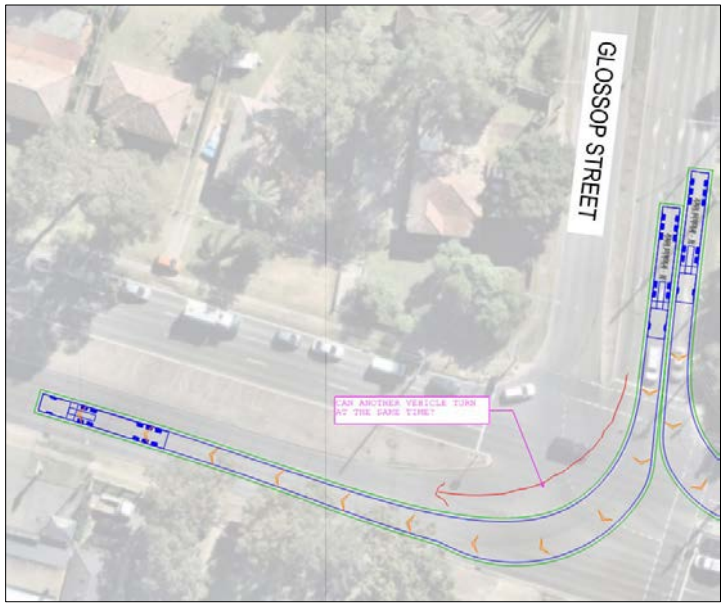
4 Findings

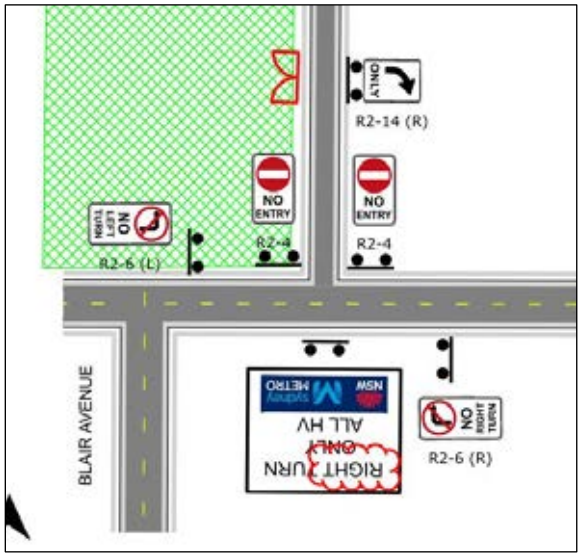
Table 3 outlines the findings of this audit, noting the columns to the right of the table will be completed by the client after receiving and reviewing this report.

RSAs are a formal process and the client is required to respond to the audit's findings in writing. A client is under no obligation to accept all of the audit findings and should consider these in conjunction with all other project considerations. If the client does not accept the findings, then reasons should be included within the written response.

It is not the role of the auditor to approve the client's response to the audit.

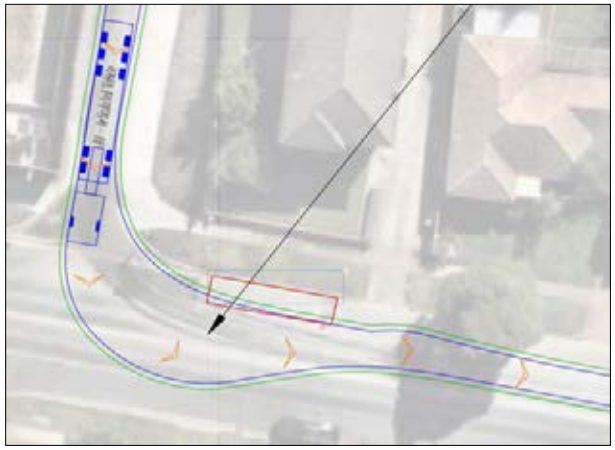
Table 3: Audit findings

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	Reasons/ Comments
1	**General issues**				
1.1.	The swept path assessment undertaken for a 19 m articulated vehicle at the intersection of Glossop Street / Great Western Highway shows a 19 m vehicle turning right from the middle lane but does not show a vehicle turning in the adjacent lane at the same time. Side swipe crashes could occur if there is inadequate space for two vehicles turning simultaneously.		Likelihood: Possible Severity: Minor Risk rating: **MEDIUM**	Yes	Updated swept paths demonstrate that this existing intersection can accommodate two vehicles turning simultaneously in accordance with Austroads requirements.

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	**Reasons/ Comments**
1.2.	The plan on page 37 indicates drivers will be briefed to turn **right** back onto Phillip Street. The traffic guidance scheme also proposes a sign indicating that heavy vehicles should turn right into Phillip Street. Based on the proposed haulage route, this should be a **left** turn. Heavy vehicles turning right at this location will travel through the activity centre of St Marys, increasing the risk of crashes involving pedestrians.		Likelihood: Possible Severity: Moderate Risk rating: **HIGH**	Yes	Revised signage shown in updated TGS.

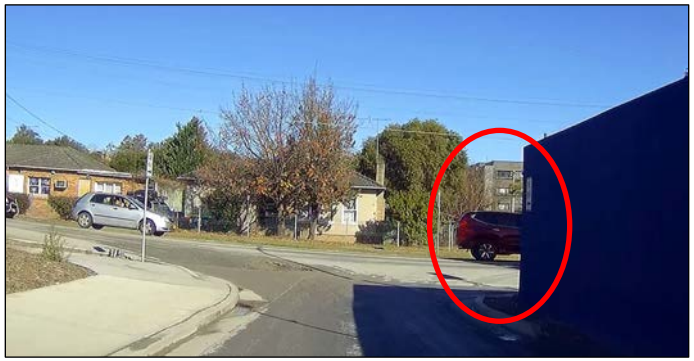
No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	**Reasons/ Comments**
1.3.	No Stopping signs are not proposed on the south side of Phillips Street opposite Access Road A. Vehicles parking here could block visibility to the sign instructing all heavy vehicles to turn left out of Access Road A. This could lead to some heavy vehicle drivers turning right out of Access Road A and into the activity centre.		Likelihood: Rare Severity: Moderate Risk rating: **LOW**	Yes	SSTOM to consult Penrith City Council and seek approval for implementation of additional No Stopping signs in response to RSA comment. Implement additional No Stopping signs once approval is obtained from Penrith City Council.

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	Reasons/ Comments
1.4.	The traffic controllers, traffic management arrangements on Glossop Street and the secondary Phillip Street access point have not been shown on the Traffic Guidance Scheme. It is noted the secondary Phillip Street egress point is located in close proximity to the St Marys activity centre and, therefore, higher pedestrian activity is expected. It is noted in the report that a traffic controller for pedestrians will be stationed at this location in addition to a traffic controller for motorists, however, details of this is not shown in the TGS. Additional pedestrian management will need to be considered at this location.		NOTE ONLY	Yes	SSTOM will retain the existing SBT traffic management arrangements for Glossop Street. Additional TGSs has been provided in Appendix B to address the Phillip Street egress traffic management arrangements.

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	**Reasons/ Comments**
1.5.	The swept path for the 19 m left turn out movement from Access Road A shows the vehicle tracking over existing parking on the north side of Phillip Street. No stopping signs have not been proposed in this location. There is a risk of trucks turning out of Access Road A colliding with vehicles parked on Phillip Street.	 	Likelihood: Unlikely Severity: Minor Risk rating: **LOW**	Yes	Additional TGSs has been provided in Appendix B to address the Phillip Street egress traffic management arrangements. Traffic controllers will be provided at this intersection to safely manage traffic when egress is required for HVs larger than 12.5m HRV,

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	Reasons/ Comments
1.6.	Swept path assessments at the secondary HV access on Phillip Street were not provided and, therefore, could not be audited. This egress will form a cross intersection with Gidley Street, where multiple conflict points exist.		**NOTE ONLY**	Yes	Swept path provided in Appendix A

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	**Reasons/ Comments**
1.7.	Not all existing temporary signs have been shown on the TGS. An example of this is the One-Way signs installed on the hoarding on the north side of Station Street opposite the residential driveways. It is unclear whether these signs will be retained, as they provide important information to guide road users of the one-way restriction/conditions.		**NOTE ONLY**	Yes	Existing signs will be retained and therefore not included in the TGS.

No	Audit findings	Photos	Risk rating	Client response	
				Accept: Yes/No	**Reasons/ Comments**
1.10.	The hoarding on the western side of Access Road A at the intersection of Phillip Street obstructs sightlines between exiting motorists and eastbound pedestrians on Phillip Street. There is a risk of a pedestrian being struck by an egressing vehicle.		Likelihood: Possible Severity: Minor Risk rating: **MEDIUM**	Yes	SSTOM to liaise with Penrith City Council to seek support for either modifying the hoarding to allow for a splay and improve sightline, or approval to install a Convex Mirror to improve sightline.

Client response completed by:

Name: __Dora Choi / Wendy Zheng_____

Signed: _____ Date: _____14/08/2023_____

5 Conclusion

This Road Safety Audit has been conducted in accordance with the procedures set out in the *Austroads Guide to Road Safety Part 6: Road Safety Audits (2022)*.

The site was inspected and supporting documentation examined.

The findings presented in the previous section of this document are provided for consideration by the client and any other interested parties.

Auditors

Friday, 11 August 2023

Paul Mihailidis [BEng (Civil), GradCert Mgt, MIEAust, CPEng, NER]

RSA-03-0796 – Level 3 road safety auditor (lead auditor)

Friday, 11 August 2023

Bernard Chan [BEng(Civil)(Hons), CPEng, NER]

RSA-03-1649 – Level 3 road safety auditor (team member)

Appendix 1 – Severity guidance sheet

Research has found the chances of surviving a crash decrease markedly above certain speeds, depending on the type of crash. It should be noted that the road user, as well as the angle of impact of a collision are also factors that impact the severity of a crash.

Figure 2 provides a severity guidance sheet.

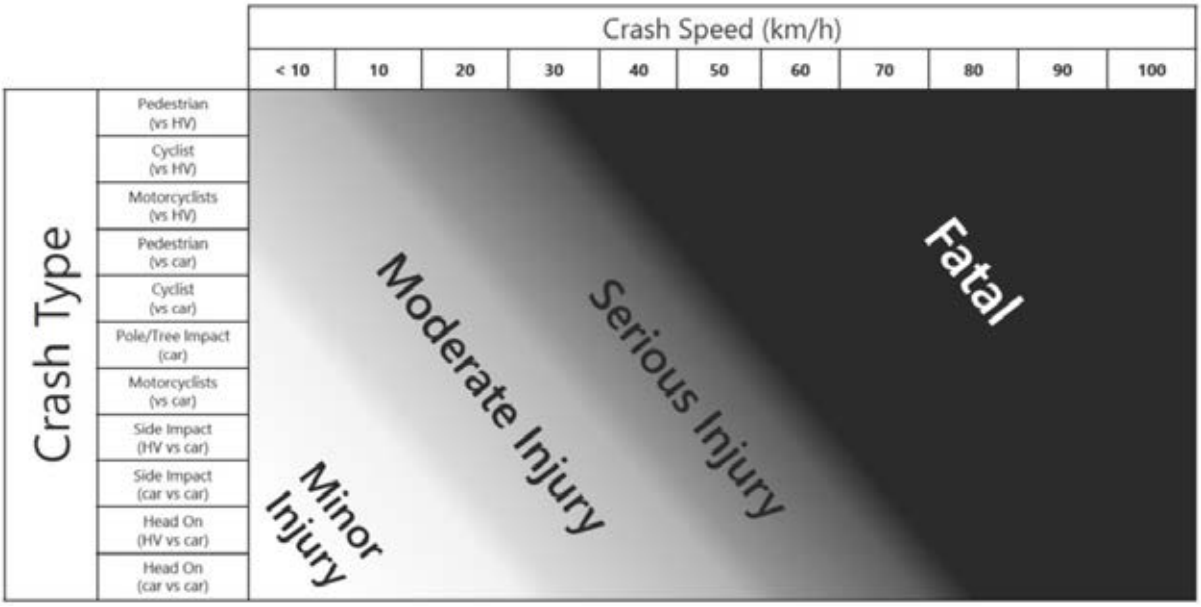


Figure 2: Severity guidance sheet

Appendix 2 – Likelihood / severity risk matrix

Figure 3 presents the likelihood / severity risk matrix.

			Severity*				
			Insignificant	Minor	Moderate	Serious	Fatal
			Property damage	Minor first aid	Major first aid and/or presents to hospital (not admitted)	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 +	Negligible	Negligible	Low	Medium (FSI)	High (FSI)

*see Severity Guidance Sheet

Safe System crash outcome threshold

Figure 3: Likelihood / severity risk matrix (Source: Austroads Guide to Road Safety Part 6 – Road Safety Audit (2022))

Appendix F Drivers Code of Conduct

Drivers Code of Conduct

Safe Driving Policy for Construction of St Marys Station

Objectives of the Drivers Code of conduct

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

Code of Conduct

The code of conduct requires that while driving any vehicle for work-related purposes.

Drivers are to be issued with a copy of the Drivers Code of Conduct, and must comply with all of the following:

- Demonstrate safe driving and road safety activities.
- Abide by traffic, road and environmental legislations.
- Follow site signage and instructions.
- Drivers must only enter and exit the site via the approved entry and exit points and travel routes.
- Drivers must register with the PLM logistics software and receive a delivery slot before proceeding to site.
- Drivers must radio ahead before turning onto Glossop Street when access is required.

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

- Reckless or dangerous driving causing injury or death.
- Driving whilst disqualified or not correctly licensed.
- Drinking or being under the influence of drugs while driving
- Failing to stop after an incident.
- Loss of demerit points leading to suspension of licence.
- Any actions that warrant the suspension of a licence.
- Exceeding the speed limit in place on any permanent or temporary roads.

Driver Responsibilities

All Drivers on site must:

- Be aware of the town centre location of the site and high volume of pedestrian and bicycle movements in and around St Marys.

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

The Site Team Responsibilities

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

This will be achieved by undertaking the following:

- Ensuring all vehicles are well maintained and that the equipment enhances driver, operator and passenger safety by way of:
  - Pre-commencement checks for all new plant arriving on-site and prior to undertaking any work.
  - Daily prestart inspections for all plant, vehicles and equipment currently on-site.
  - All construction plant must be fitted with a flashing light, fire extinguisher and reverse alarms (or squawkers).
  - Ensure all operators onsite have a current driver's licence of the appropriate class.

  - Ensure maintenance requirements are met and recorded.
- Identify driver training needs and arranging appropriate training or re-training. This may include providing the below:
  - Operator VOC assessment as part of all inductions.
  - Regular Toolbox discussions on safety features, managing fatigue, approved heavy routes, driver responsibility and drink-driving.
- Encouraging Safe Driving behaviour by:
  - Ensuring the subcontractor is informed if their staff become unlicensed.
  - Not covering or reimbursing staff speeding or other infringement notices
  - Ensuring Legal use of mobile phones in vehicles while driving only and that illegal use is not undertaken.
- Encouraging better fuel efficiency by:
  - Use of other transport modes or remote conferencing, whenever practical.
  - Providing training on, and circulating information about, travel planning and efficient driving habits.

Crash or Incident Procedure

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

Environmental Procedures.

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

- No dirt or debris from the construction vehicles is tracked on to the public road network.
- Reduce the impacts to sensitive receivers, including, where practicable, starting noisy equipment away from sensitive receivers and implementing respite periods.
- Watering of dusty activities will be undertaken, or activities temporarily halted and then resumed once weather conditions have improved.
- Containment measures for spillages will be provided at appropriate locations and in close proximity to staff car park areas, dangerous goods stores areas and main Project work areas.
- Keep an accurate record which includes the range of measures undertaken to reduce environmental impacts.

Appendix G Traffic Guidance Scheme – Tower Crane 1

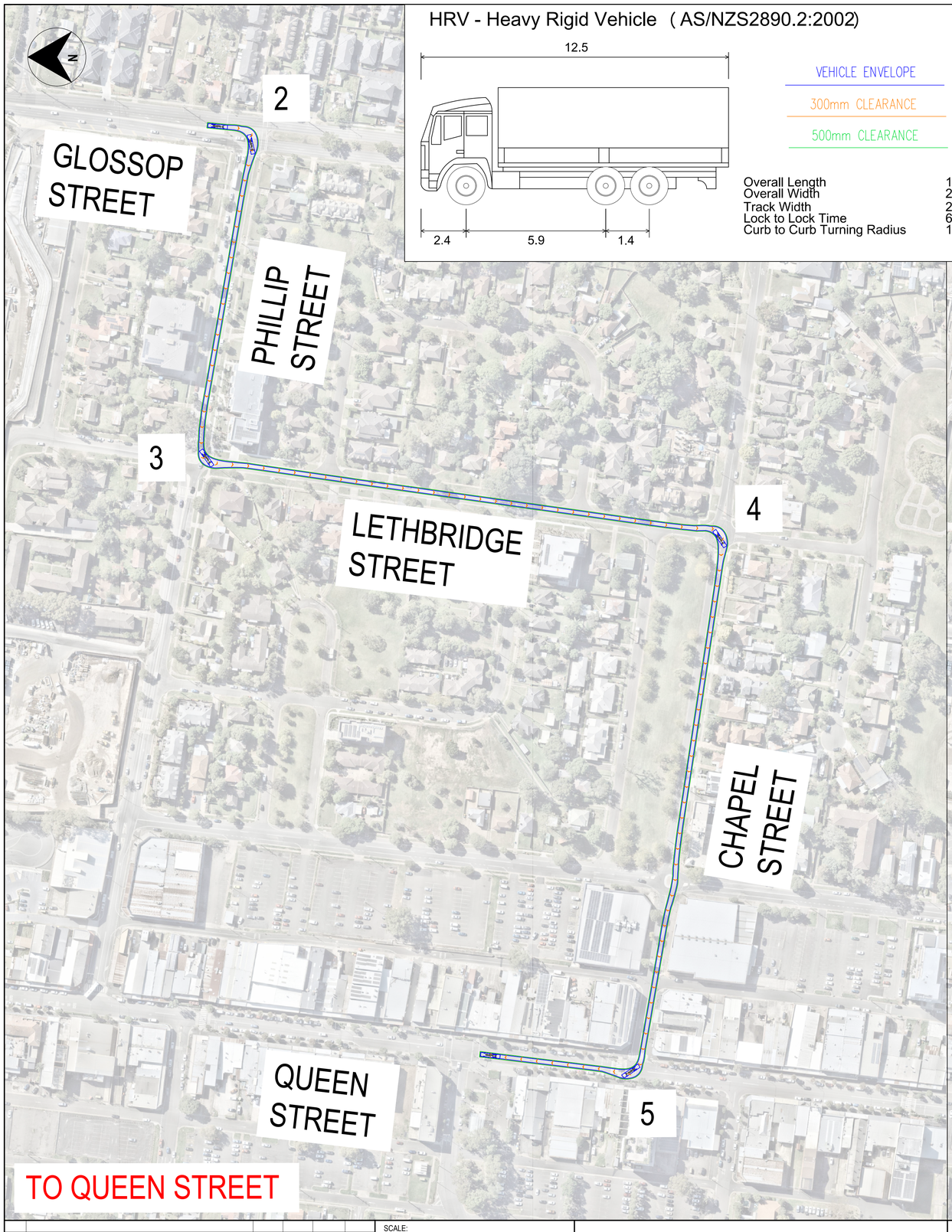
HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)

VEHICLE ENVELOPE

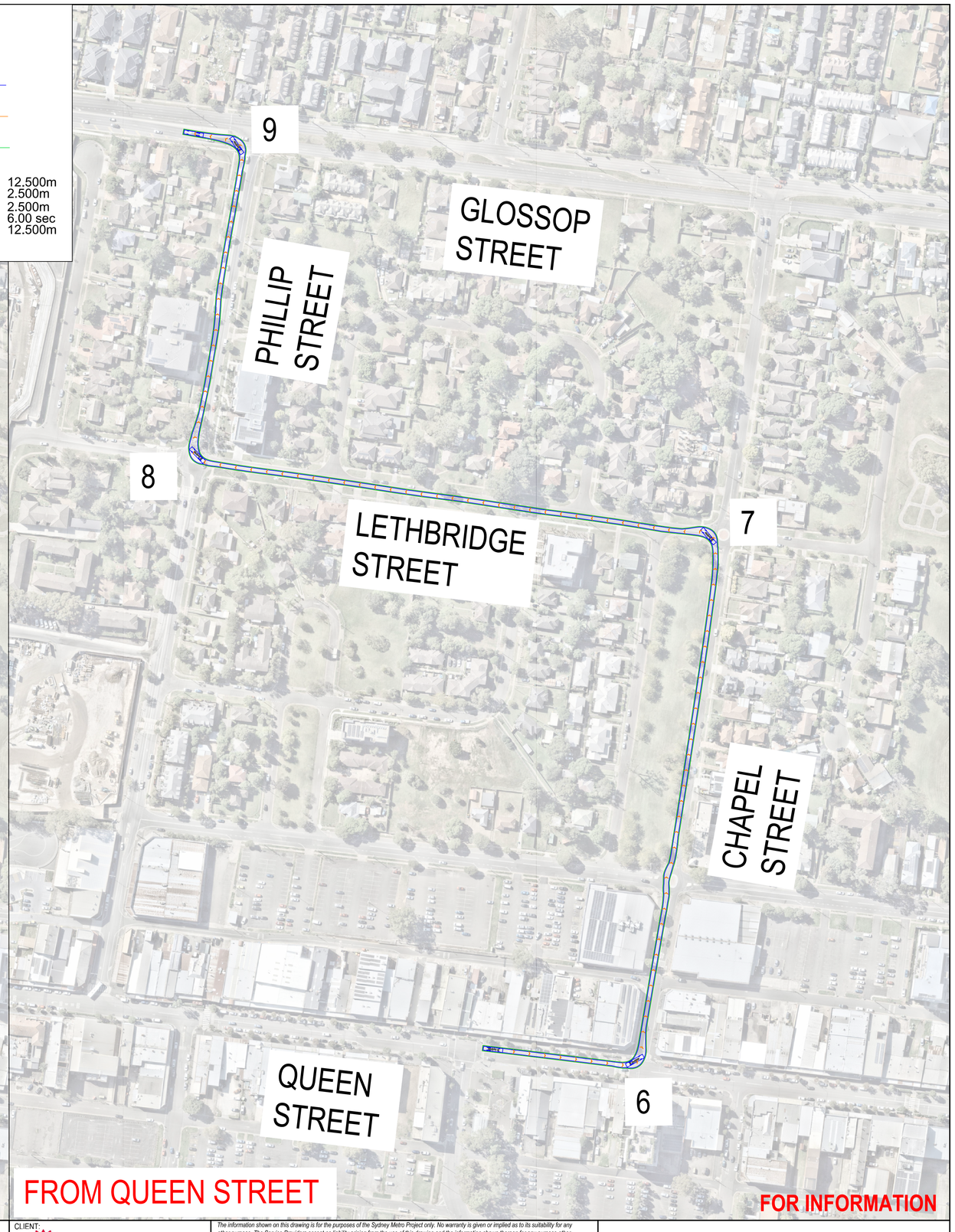
300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m



TO QUEEN STREET



FROM QUEEN STREET

FOR INFORMATION

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Co-ordinate System: | Height Datum: | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

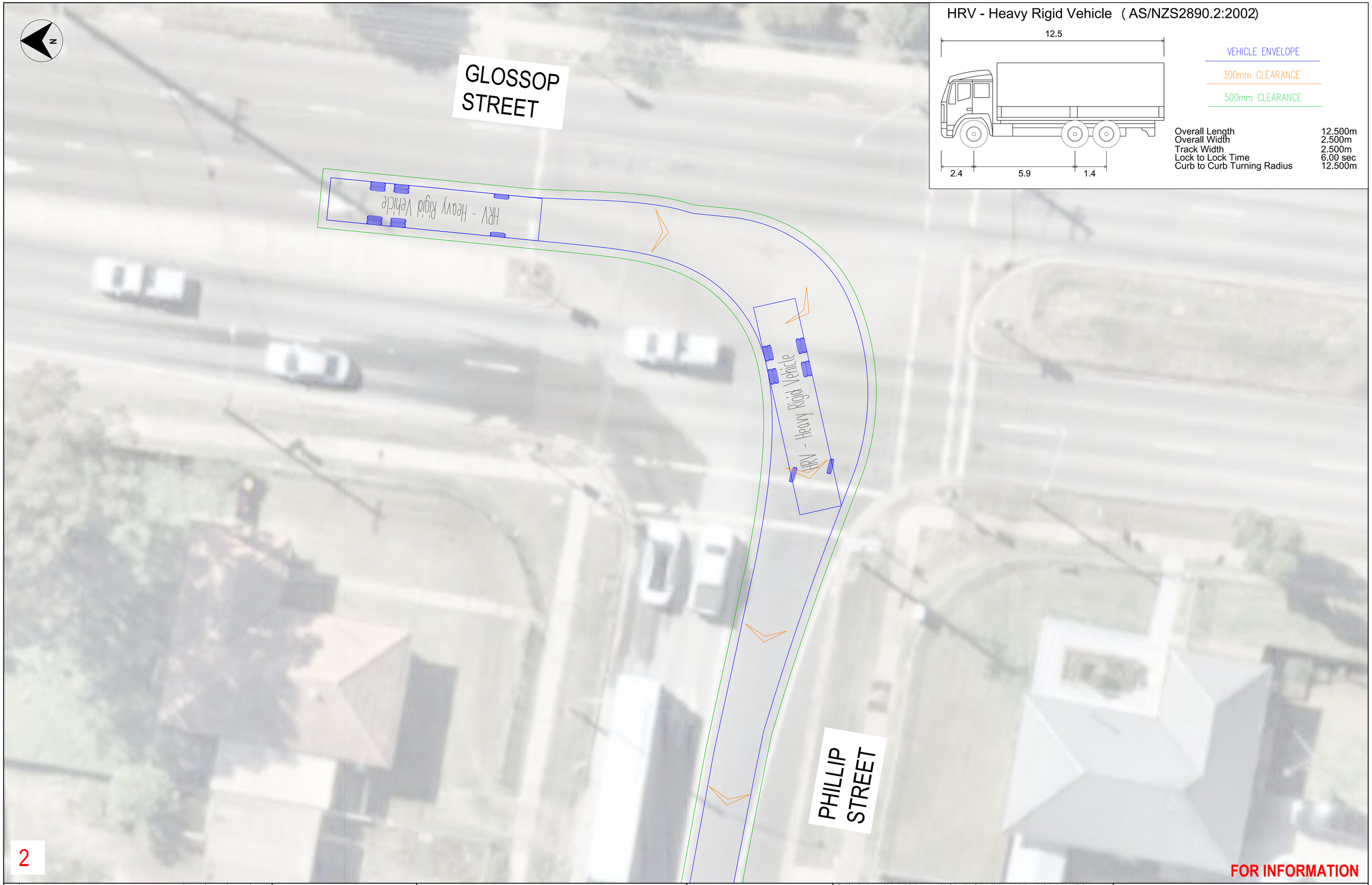
CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

DRAWN
DESIGNED
DRG CHECK
DESIGN CHECK
APPROVED

FILE No: | SHEET: OF | ©
STATUS: | EDMS No:
DRG No: | REV | VER



HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)

VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

2

FOR INFORMATION

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SCALE:

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CLIENT: NSW GOVERNMENT | sydney METRO

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FILE No: | SHEET: OF | ©
STATUS: | EDMS No:
DRG No: | REV | VER

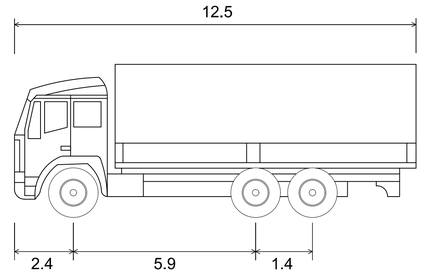
N

PHILLIP STREET

HRV - Heavy Rigid Vehicle

LETHBRIDGE STREET

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

3

FOR INFORMATION

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SCALE:

Co-ordinate System:

Height Datum:

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NOTE: Do not scale from this drawing.

CLIENT: NSW GOVERNMENT | sydney METRO

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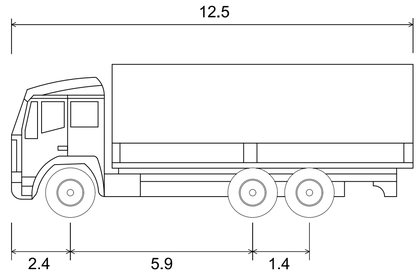
LETHBRIDGE STREET

CHAPEL STREET

HRV - Heavy Rigid Vehicle

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

4

FOR INFORMATION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

SCALE:

CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

DRAWN
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APPROVED

FILE No: | SHEET: OF | ©
STATUS: | EDMS No:
DRG No: | REV | VER

Co-ordinate System: | Height Datum: | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

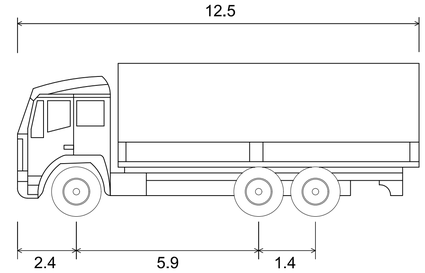
N

CHAPEL STREET

QUEEN STREET

HRV - Heavy Rigid Vehicle

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

5

FOR INFORMATION

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CLIENT: NSW GOVERNMENT | sydney METRO | Parklife Metro D&C

TAO DESIGN COMPANY/CONTRACTOR:

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DESIGN CHECK
APPROVED

FILE No: | SHEET: OF | ©
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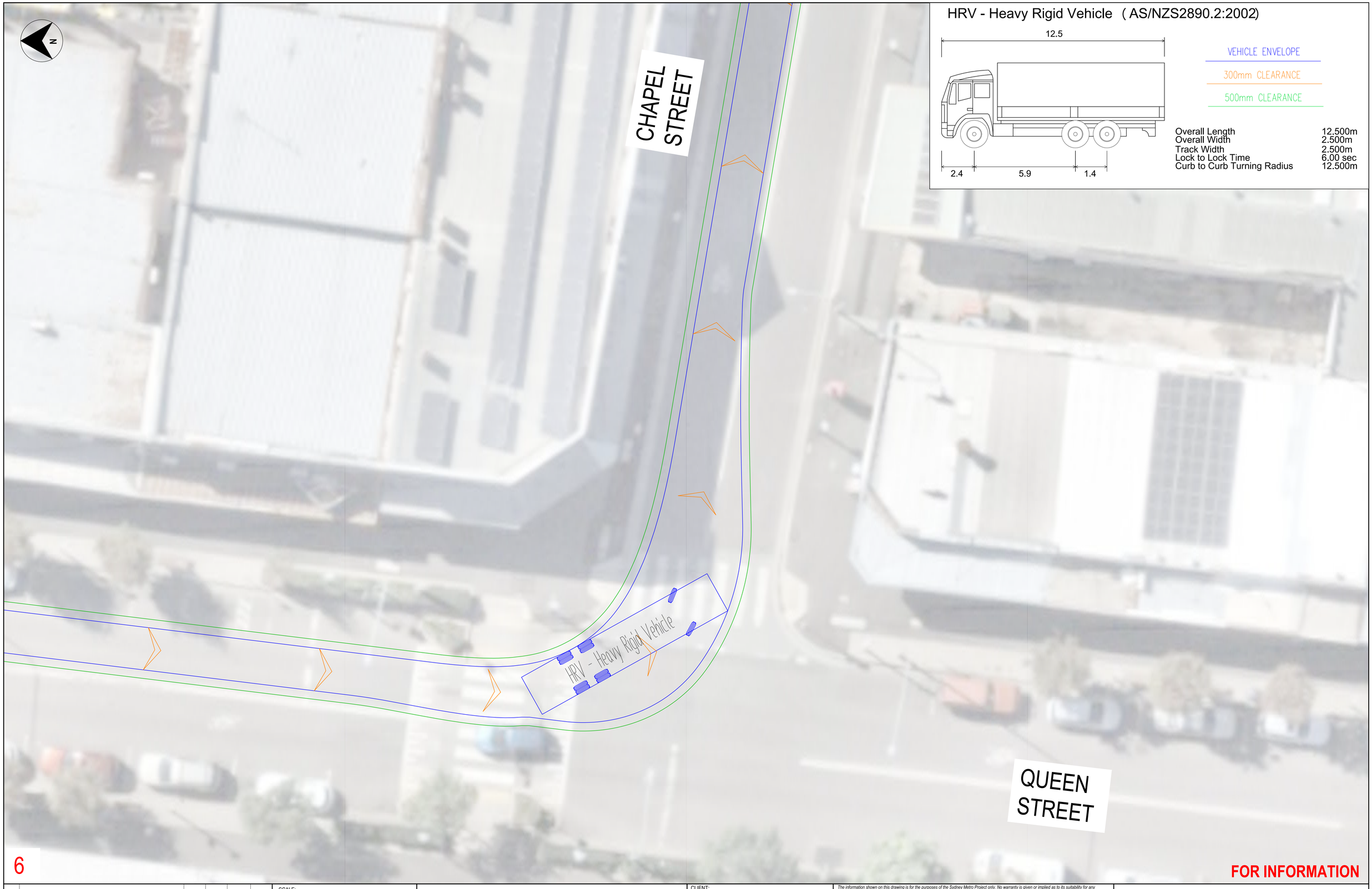
DRG No: | REV | VER



HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)

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Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

6

FOR INFORMATION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

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CLIENT: NSW GOVERNMENT | sydney METRO

Parklife Metro D&C

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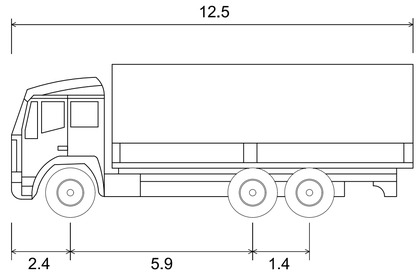
N

LETHBRIDGE STREET

CHAPEL STREET

HRV - Heavy Rigid Vehicle

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
Curb to Curb Turning Radius	12.500m

7

FOR INFORMATION

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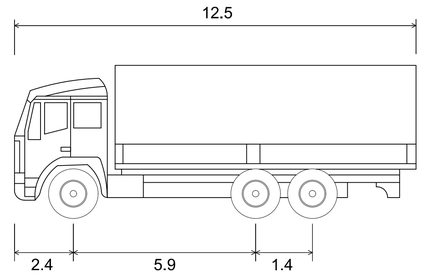
PHILLIP STREET

HRV - Heavy Rigid Vehicle

LETHBRIDGE STREET

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
Overall Width	2.500m
Track Width	2.500m
Lock to Lock Time	6.00 sec
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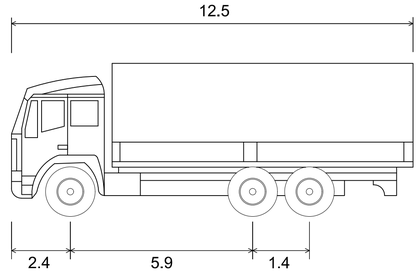
GLOSSOP STREET

PHILLIP STREET

HRV - Heavy Rigid Vehicle

HRV - Heavy Rigid Vehicle (AS/NZS2890.2:2002)



VEHICLE ENVELOPE

300mm CLEARANCE

500mm CLEARANCE

Overall Length	12.500m
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Track Width	2.500m
Lock to Lock Time	6.00 sec
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N

STATION STREET

CHESHAM STREET

WORK AREA

QUEEN STREET

PHILLIP STREET

LETHBRIDGE STREET

CHAPEL STREET

TGS 1

TGS 2

TGS 3

TGS 4

TGS 5

TGS 6

TGS 7

TGS 8

MINIBUS FOR PEDESTRIAN DETOUR

MINIBUS FOR PEDESTRIAN DETOUR

40.0 50.0

TGS LEGEND

TGS GENERAL NOTES

- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
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Designer / Approver	Designer / Approver
Full Name: Wen Yan Zheng Role: Traffic Manager Division / Organisation: Parklife Metro SafeWork NSW Card Number: TCT1015144 Signature: Date:	Full Name: Dora Choi Role: Traffic Planning Division / Organisation: Parklife Metro SafeWork NSW Card Number: TCT0021456 Signature: Date:

Installed as per TGS and in accordance with any changes as shown on TGS

Team leader (on site):

Signature:

Date:

Ticket No:

Reason for Modification

FOR INFORMATION

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Legend
Work Area
Soft Closure
Detour
Bus Diversion
Pedestrian Diversion Shuttle Bus
Wed Mar 13 2024
Imagery © 2024 Nearmap, HERE
nearmap

WORK AREA

STATION STREET

CHESHAM STREET

LETHBRIDGE STREET

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Designer / Approver	Designer / Approver
Full Name: Wen Yan Zheng	Full Name: Dora Choi
Role: Traffic Manager	Role: Traffic Planning
Division / Organisation: Parklife Metro	Division / Organisation: Parklife Metro
SafeWork NSW Card Number: TCT1015144	SafeWork NSW Card Number: TCT0021456
Signature:	Signature:
Date:	Date:

TGS 1

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STATUS: | EDMS No:
DRG No: | REV | VER

N

2 X BARRIER BOARDS

WORK AREA

STATION STREET

CHESHAM STREET

LETHBRIDGE STREET

ROAD CLOSED T2-1

FOOTPATH CLOSED

NO LEFT TURN R2-6N

PEDESTRIANS T8-2

NO LEFT TURN R2-6N

PREPARE TO STOP T1-34

T1-34

PREPARE TO STOP

40.0

40.0

40.0

TGS 2

FOR INFORMATION

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Team leader (on site):

Signature:

Date:

Ticket No:

Reason for Modification

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Role: Traffic Manager	Role: Traffic Planning
Division / Organisation: Parklife Metro	Division / Organisation: Parklife Metro
SafeWork NSW Card Number: TCT1015144	SafeWork NSW Card Number: TCT0021456
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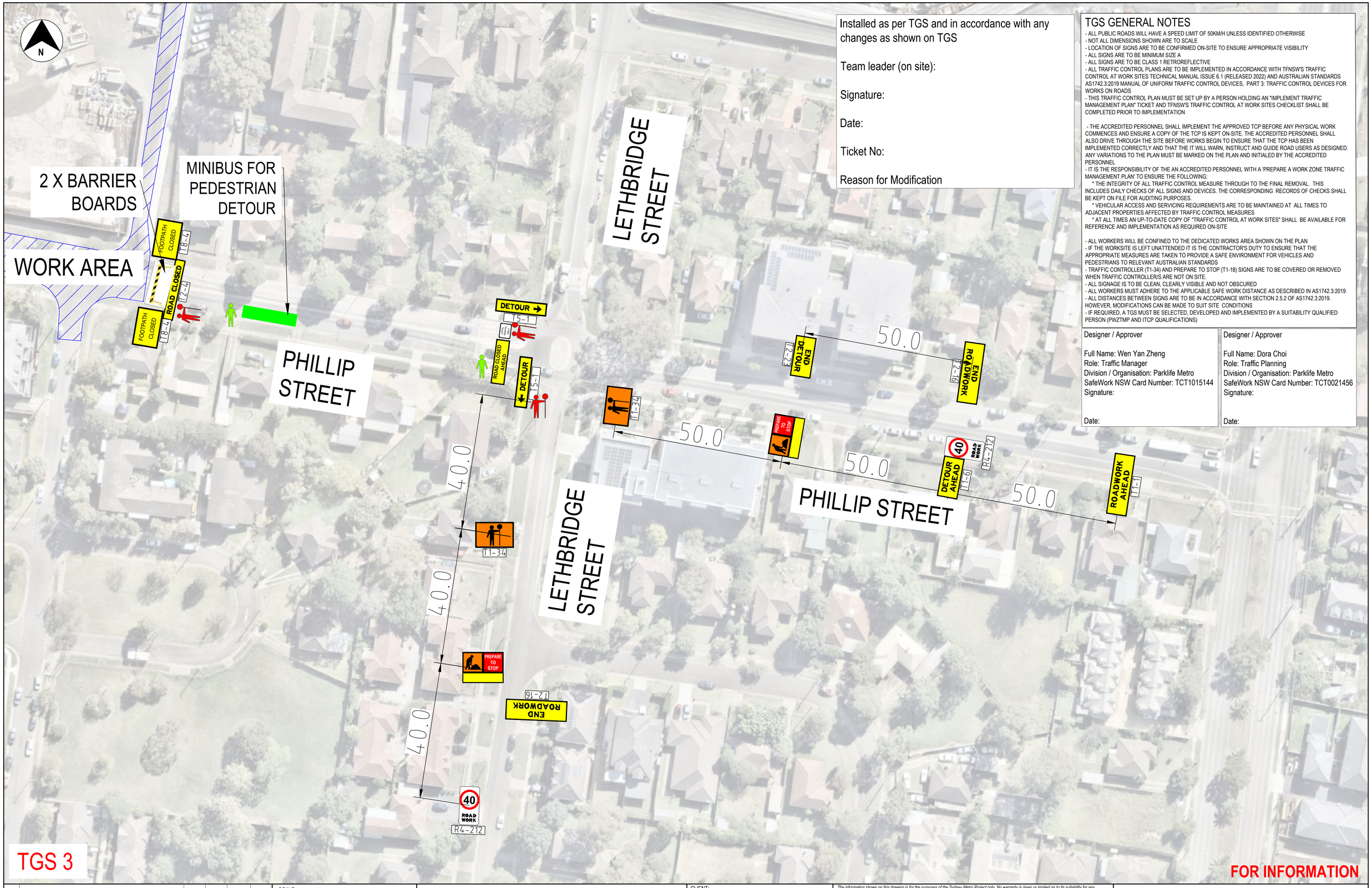

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Date:

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Full Name: Wen Yan Zheng	Full Name: Dora Choi
Role: Traffic Manager	Role: Traffic Planning
Division / Organisation: Parklife Metro	Division / Organisation: Parklife Metro
SafeWork NSW Card Number: TCT1015144	SafeWork NSW Card Number: TCT0021456
Signature:	Signature:
Date:	Date:

TGS 3

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TGS 4

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Reason for Modification

FOR INFORMATION

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Signature:

Date:

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Reason for Modification

TGS GENERAL NOTES

- ALL PUBLIC ROADS WILL HAVE A SPEED LIMIT OF 50KM/H UNLESS IDENTIFIED OTHERWISE
- NOT ALL DIMENSIONS SHOWN ARE TO SCALE
- LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY
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- ALL SIGNS ARE TO BE CLASS 1 RETROREFLECTIVE
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- ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2019
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Designer / Approver	Designer / Approver
Full Name: Wen Yan Zheng Role: Traffic Manager Division / Organisation: Parklife Metro SafeWork NSW Card Number: TCT1015144 Signature: Date:	Full Name: Dora Choi Role: Traffic Planning Division / Organisation: Parklife Metro SafeWork NSW Card Number: TCT0021456 Signature: Date:

TGS 5

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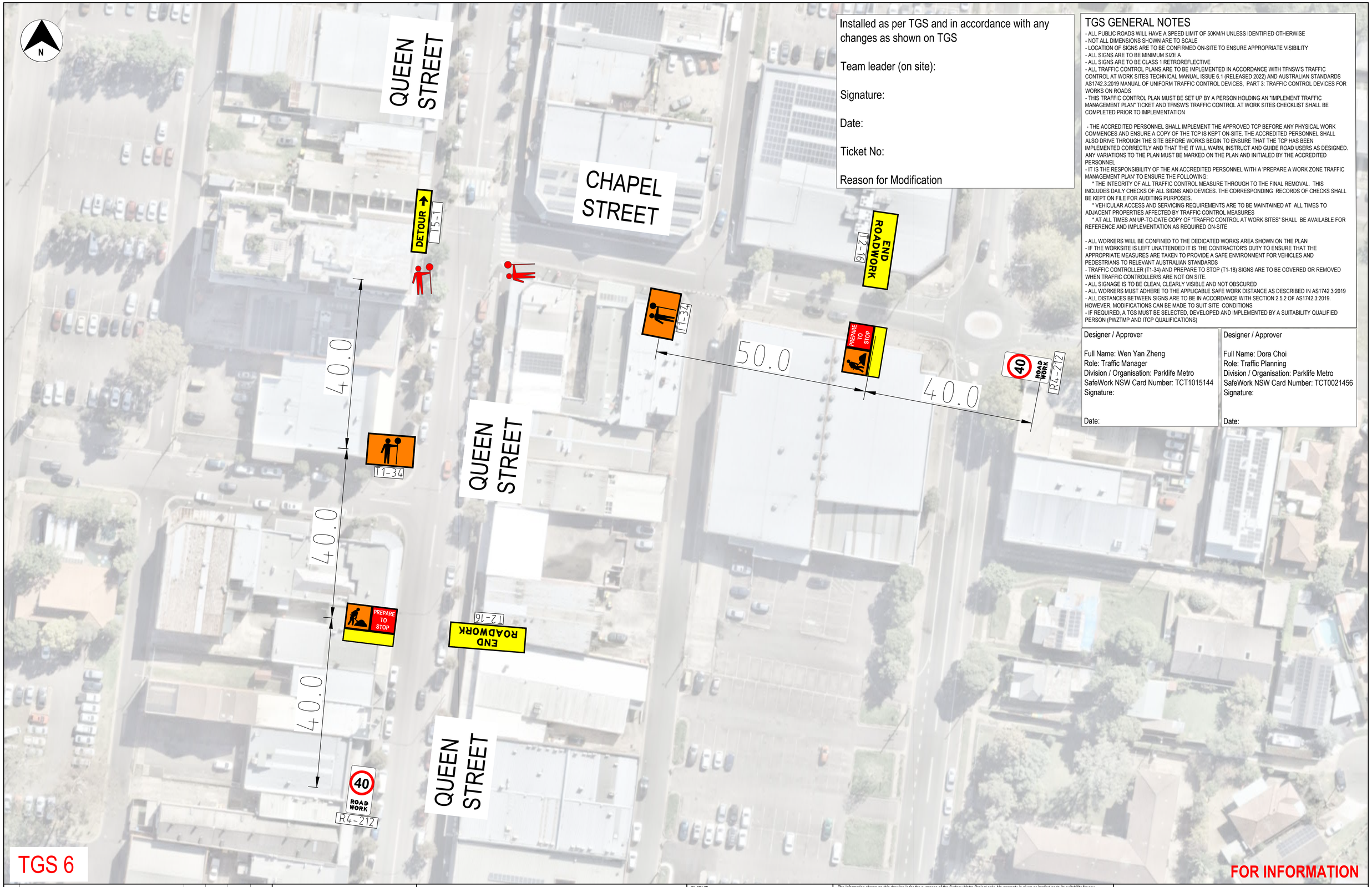

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Team leader (on site):

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Designer / Approver	Designer / Approver
Full Name: Wen Yan Zheng	Full Name: Dora Choi
Role: Traffic Manager	Role: Traffic Planning
Division / Organisation: Parklife Metro	Division / Organisation: Parklife Metro
SafeWork NSW Card Number: TCT1015144	SafeWork NSW Card Number: TCT0021456
Signature:	Signature:
Date:	Date:

TGS 6

FOR INFORMATION

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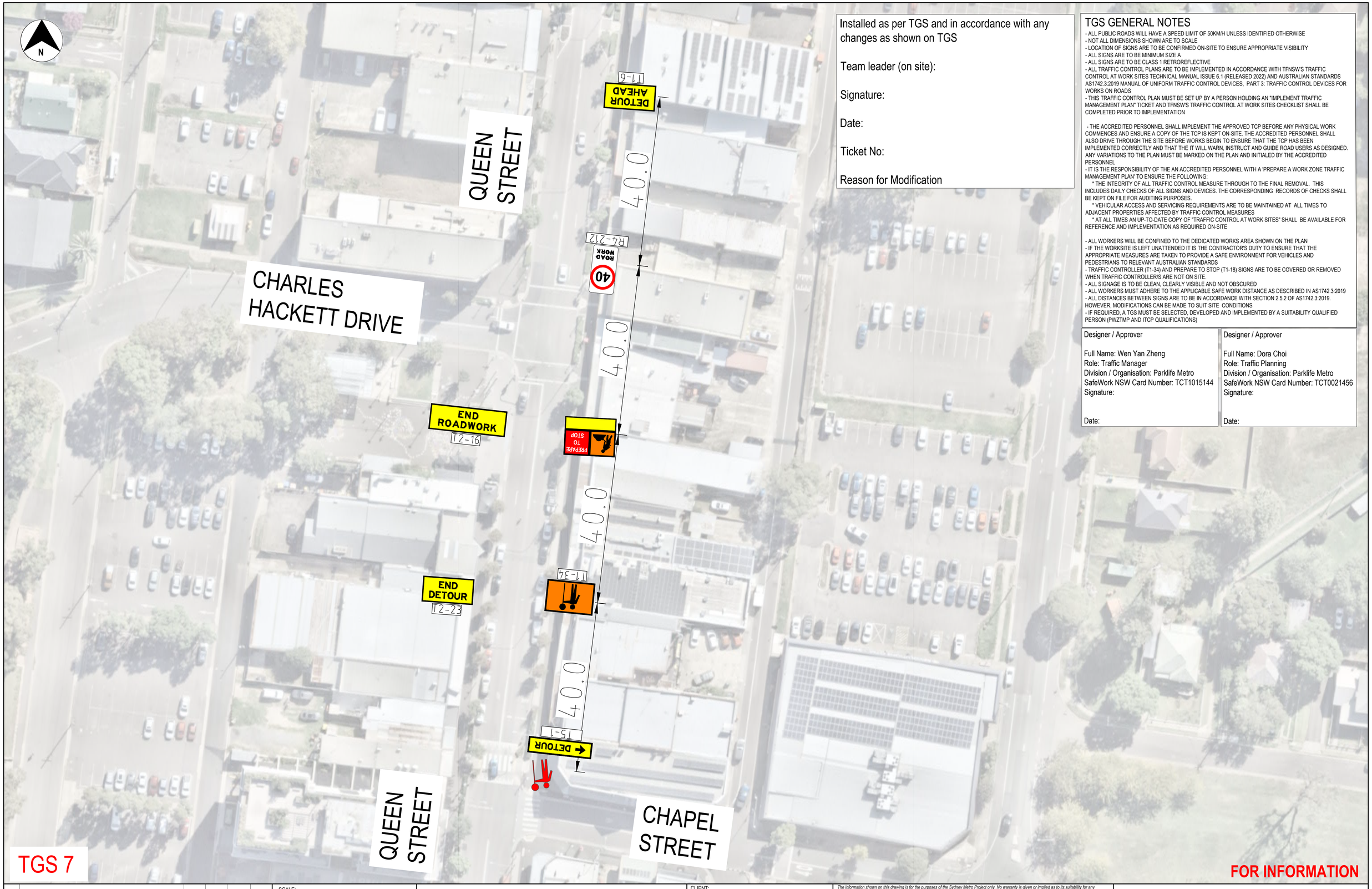

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Designer / Approver	Designer / Approver
Full Name: Wen Yan Zheng	Full Name: Dora Choi
Role: Traffic Manager	Role: Traffic Planning
Division / Organisation: Parklife Metro	Division / Organisation: Parklife Metro
SafeWork NSW Card Number: TCT1015144	SafeWork NSW Card Number: TCT0021456
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TGS 7

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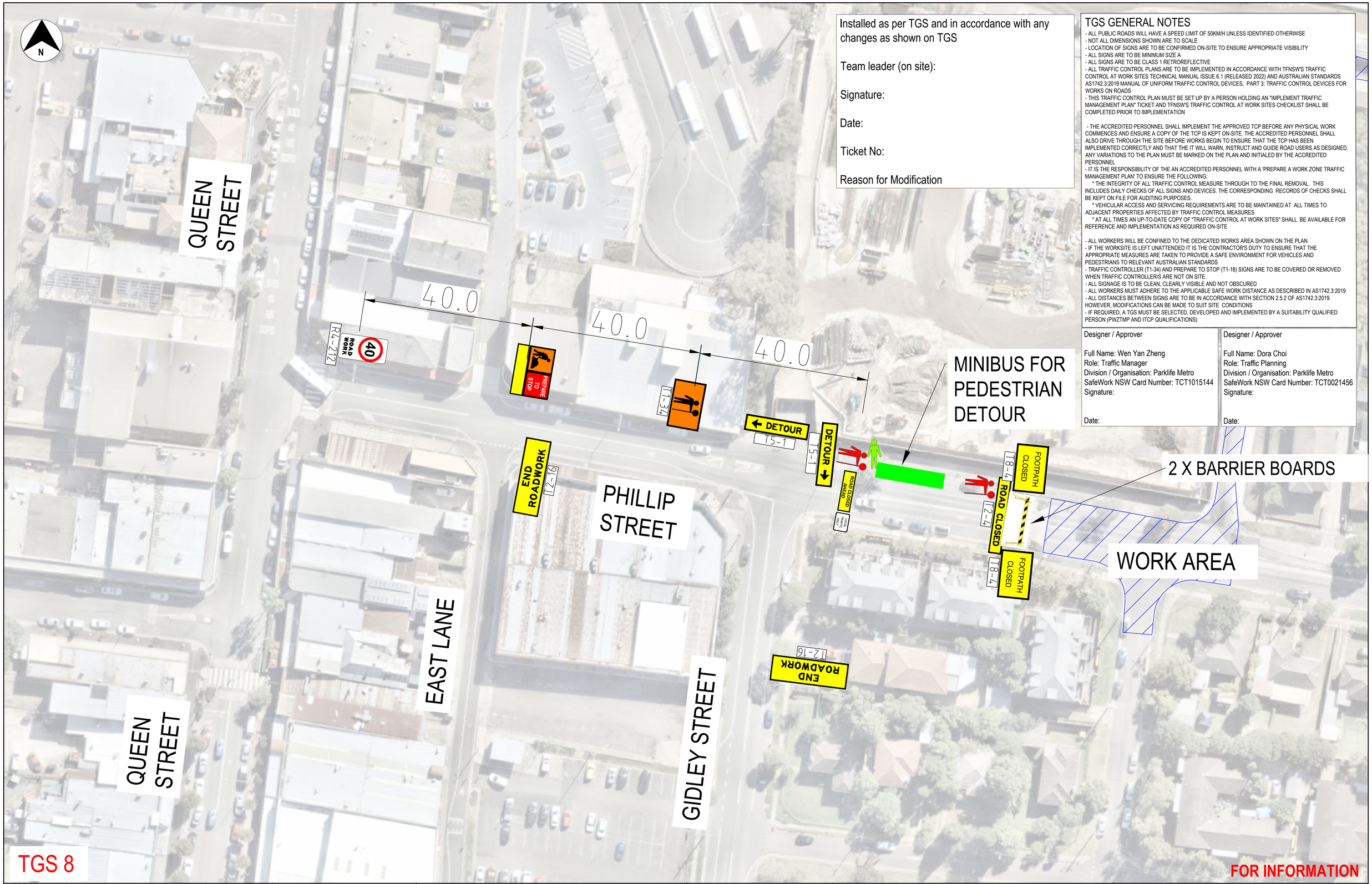

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Designer / Approver

Full Name: Wen Yan Zheng
Role: Traffic Manager
Division / Organisation: Parklife Metro
SafeWork NSW Card Number: TCT1015144
Signature:

Date:

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TGS 8

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