SYDNEY METRO - WESTERN SYDNEY AIRPORT
STATION BOXES AND TUNNELLING WORKS

Orchard Hills Site Operation - Construction Traffic Management Plan

Sydney Metro Western Sydney Airport Station Boxes and Tunnelling Works

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Details of Revision Amendments

Document Control

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

Amendments

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

Revision Details

Revision	Details
A	Issued for external review
B	Submitted for Approval
00	Approved version for construction

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1. Introduction

1.1. Project and location

Western Sydney International (Nancy-Bird Walton) and Western Sydney Aerotropolis are key components of the Western Parkland City, which forms part of the strategy for Greater Sydney to become a global metropolis of three unique and connected cities; the Eastern Harbour City, the Central River City and the Western Parkland City.

Sydney Metro - Western Sydney Airport forms part of the broader Sydney Metro network. It involves the construction and operation of a 23km new metro rail line that extends from the existing Sydney Trains suburban T1 Western Line (at St Marys) in the north and the Western Sydney Airport Aerotropolis (at Bringelly) in the south. Figure 1 shows the rail alignment and key features of the project.

The project will be delivered through a number of works packages including the Station Boxes and Tunnelling (SBT) works. The SBT works include the design and construction of the following:

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

The project is categorised into two components, including components located outside Western Sydney International (off-airport) and components located within Western Sydney International (on-airport) to align with the different planning approval pathways required under State and Commonwealth legislation.

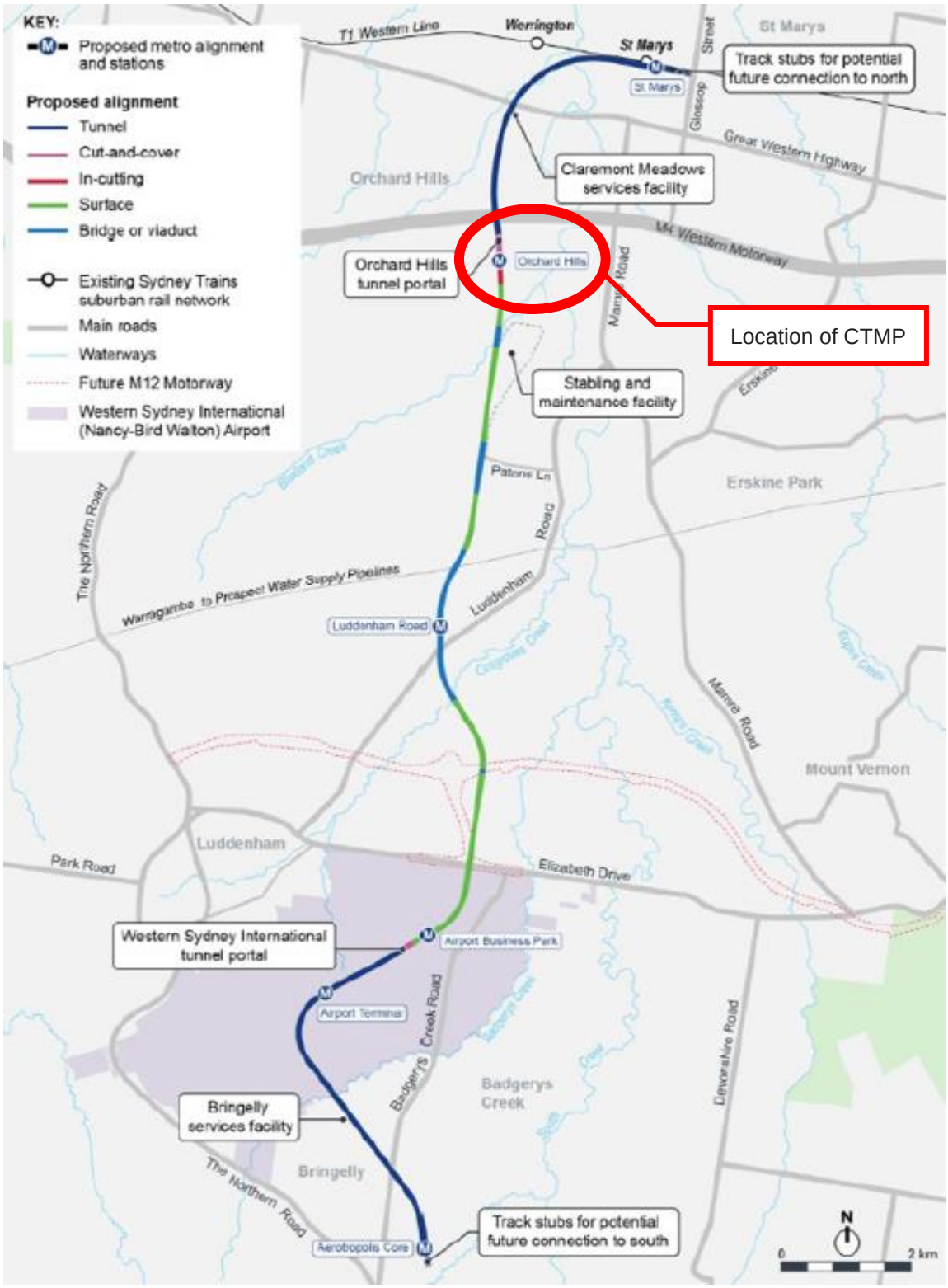


Figure 1: Project Alignment and Key Features

1.2. Purpose

This site-specific Construction Traffic Management Plan (CTMP) for Orchard Hills construction site (the site) has been developed to identify the traffic management measures for the site operations phase of works at Orchard Hills in addition to traffic staging for Lansdowne Road bridge construction.

The scope of this CTMP is to detail the traffic and transport impacts and management measures associated with the traffic stages required to facilitate the construction of the Lansdowne Road bridge. It also details the traffic impacts and management measures proposed during the site operations of Orchard Hills site.

The road bridge on Lansdowne Road is required to redirect the traffic to allow for the TBMs to be launched from the southern side of the site allowing them to traverse north under Lansdowne Road Bridge to continue towards Claremont Meadows and St Marys while maintaining vehicular access on Lansdowne Road.

The three (3) proposed stages to manage traffic on Lansdowne Road during the construction and operation are as follows:

- Stage 1: Tie in of temporary diversion road (side track) with Lansdowne Road – short term works – Section 4
- Stage 2: Traffic switch onto temporary diversion road (side track) – Section 5
- Stage 3: Traffic switch onto permanent Lansdowne Road bridge – Section 6

This CTMP and the documents referenced in the CTMP have been prepared in accordance with the relevant standards and guidelines listed in Section 8.8.

This plan has been prepared to meet the following requirement including SSI 10051 Planning Approval Condition E103 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)

1.3. Objectives

The primary objectives and principles of this CTMP are:

- Minimising the impacts on traffic delays and road safety
- Minimising disruption to private properties and local businesses
- Minimising impacts on existing pedestrian footpaths and cycleways
- Ensuring coordination with Western Sydney Airport and Transport for NSW (TfNSW) through Traffic and Transport Liaison Group (TTLG) and Traffic Control Group (TCG) to manage any accumulative impacts with surrounding projects.
- Ensuring traffic impacts are within the scope permitted by TfNSW, Sydney Metro Western Sydney Airport and Penrith City Council
- Meet the requirements of the Project brief, Project Specifications, MCoA and WorkSafe Traffic Control at Work Sites (TCaWS) Manual.

2. Locality and existing traffic conditions

2.1. Site context

Orchard Hills site is located to the south of M4 Western Motorway, surrounded mostly by rural, lifestyle residential and undeveloped land. The site comprises Tunnel Boring Machine (TBM) dive site (to the south of Lansdowne Road), civil site and TBM support site (to the north of Lansdowne Road). The Orchard Hills site is shown in Figure 2.

As noted in section 1.2, the road bridge on Lansdowne Road is required to redirect the traffic to allow for the TBMs to be launched from the southern side of the site allowing them to traverse north under Lansdowne Road Bridge to continue towards Claremont Meadows and St Marys while maintaining vehicular access on Lansdowne Road.

In order to facilitate this, there will be three traffic stages on Lansdowne Road, including a temporary diversion (side-track) for traffic while the road bridge undergoes construction. Once the road bridge construction is finished, traffic will be switched onto Lansdowne Road bridge and the side-track will be demobilised. It is also proposed to construct two access gates off the side-track and Lansdowne Road, dependent on the traffic stages, for access to/from the dive site, which is located to the south of Lansdowne Road.

Figure 2: Site locality (indicative purpose only)

2.2. Abutting road network

2.2.1. Lansdowne Road

Lansdowne Road is classified as a local road, which runs in the east-west direction, connecting Samuel Marsden Road and Kent Road to the east and Calverts Road to the west.

Lansdowne Road is generally configured as a two-lane, two-way road with unsealed shoulders and no footpaths are provided. There are no designated parking areas along the road although there is informal parking between property boundaries and the public road. The current posted speed limit is 70km/h.

The road classification surrounding the site is shown in Figure 3.

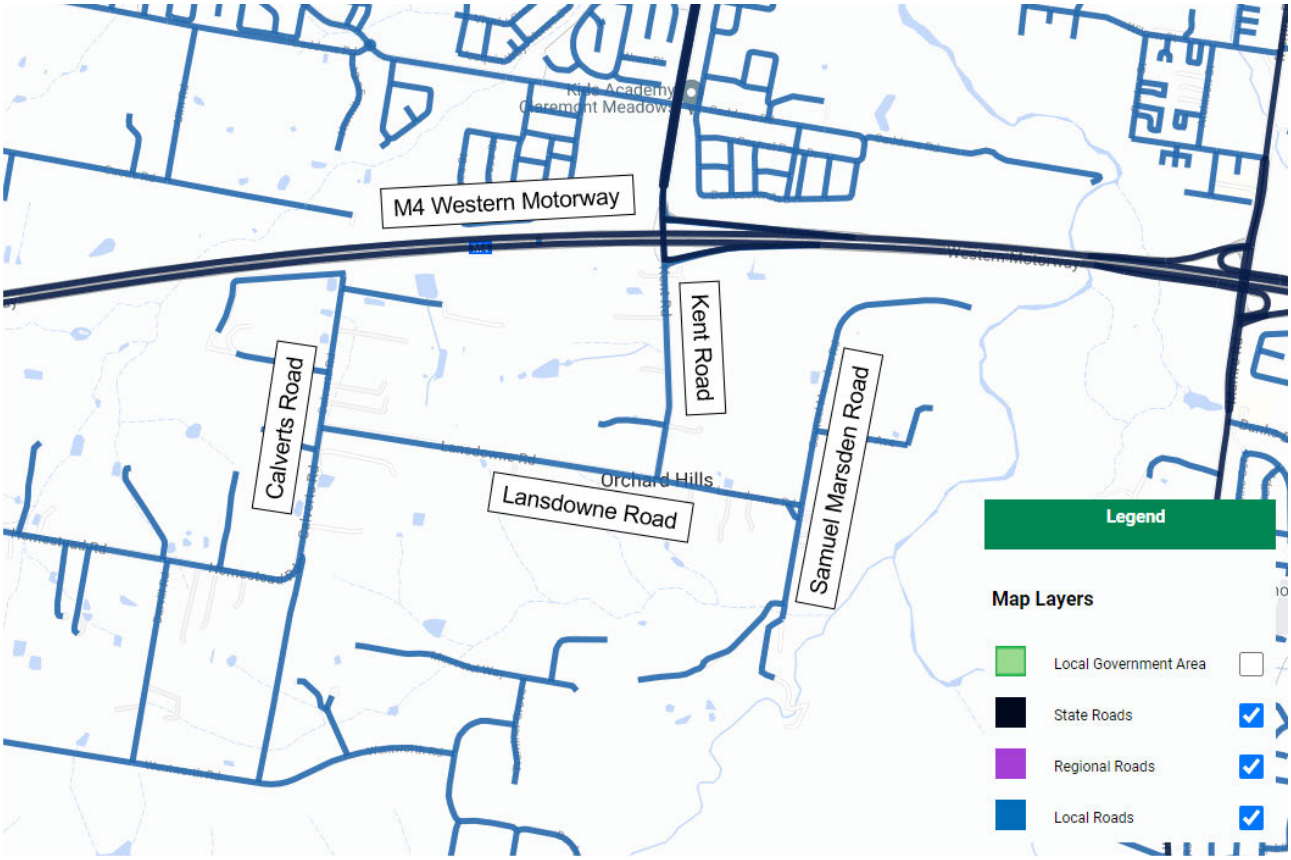


Figure 3: NSW Road Network Classifications

Source:https://roads-waterways.transport.nsw.gov.au/classification/map

2.2.2. Kent Road

Kent Road is classified as a local road, collecting traffic from the M4 Western Motorway and distributing them to and from the local residential and agricultural land within the area.

To the south of M4 Western Motorway, Kent Road runs between the M4 Western Motorway and Lansdowne Road. It is generally configured as a two-lane, two-way road with unsealed shoulders and no footpaths are provided. There are no designated parking areas along the road although there is informal parking along the unsealed shoulder, between property boundaries and the road. The current posted speed limit is 70km/h.

To the north of the M4 Western Motorway, Kent Road runs between the M4 Western Motorway and Caddens Road for approximately 400m and continues further north to Gipps Road. Kent Road is a four-lane, two-way divided road with a shared use path provided on the west side of the road (north of the M4 motorway). On-street parking is prohibited on both sides of the road. The posted speed limit is 70km/h between Lansdowne Road and 300m north of the M4 interchange and the posted speed limit increases to 80km/h further north.

The Orchard Hills site is contained within the southern section of Kent Road, between the M4 Motorway off-ramp and Lansdowne Road. The northern section of Kent Road (north of M4 Motorway) will not be impacted by the proposed construction activities at Orchard Hills site.

2.2.3. M4 Western Motorway

The M4 Western Motorway is one of the key arterial roads in Sydney connecting Sydney Central Business District (CBD) to Western Sydney and the Blue Mountains area. Around the site vicinity, the M4 Motorway is configured as a divided six-lane, two-way road, with a posted speed limit of 100 km/h. Variable speed limit signage is provided to change the speed limit, as necessary.

The motorway intersects with Kent Road as a half diamond interchange with an east facing westbound off ramp (three lanes) and an east facing eastbound on ramp (two lanes) under traffic signal control.

Motorists heading west from Kent Road would travel eastbound via the M4 Motorway, then take the Mamre Road exit before turning back onto the M4 Motorway towards the west.

2.3. Public transport facilities

There are no public transport services including buses and trains in the vicinity of the site (See Figure 4) noting a number of school services traverse Kent Road and Lansdowne Road. School services 4058, 4062, 4148, 4516, 4523, 4606, 4644 and 4661 travel along Lansdowne Road with services 4058, 4062, 4511, 4516, 4523 and 4644 travelling along Kent Road.

The nearest bus stop to the Orchard Hills site is located on Gipps Road, approximately 460m from the M4 interchange at Kent Road. This bus stop services bus route 774 (Mount Druitt to Penrith via Nepean Hospital) and bus route 781 (St Marys to Penrith via Glenmore Park).

The nearest train station to the subject site is Werrington train station with a walking distance of approximately 3 km. This train station services T1 (North Shore and Western Line) and T5 (Cumberland Line) lines.

Figure 4: Existing Bus Network around Orchard Hills Site

Source: https://transportnsw.info/travel-info/ways-to-get-around/bus/bus-operator-maps

2.4. Pedestrian and cyclist infrastructure

There are no designated footpaths provided south of the M4 Motorway along Kent Road or Lansdowne Road. However, a shared pedestrian and bicycle path is available north of the M4 Motorway off-ramp/Kent Road intersection, which connects to Gipps Street and Great Western Highway.

Considering the land uses of the surrounding areas, minimal cyclist activity is expected along Kent Road (SBT site frontage) and Lansdowne Road.

There is also an existing on-road cycle path located on the M4 Motorway off-ramp, which connects to the existing pedestrian and bicycle path on the western side of Kent Road. This shared path allows cyclists to continue travelling northbound on Kent Road towards Gipps Street and Great Western Highway. Works proposed in this CTMP will not change or impact operations of the cycle path on M4 off ramp or the shared path along Kent Road (north of M4 off ramp). While there is no direct impact of works proposed in this CTMP on the cycle paths in the vicinity of SBT site, CPG will install decals on the shared path as shown in **Error! Reference source not found.** to provide warning to cyclists and pedestrians about increased heavy vehicle movements in the area.

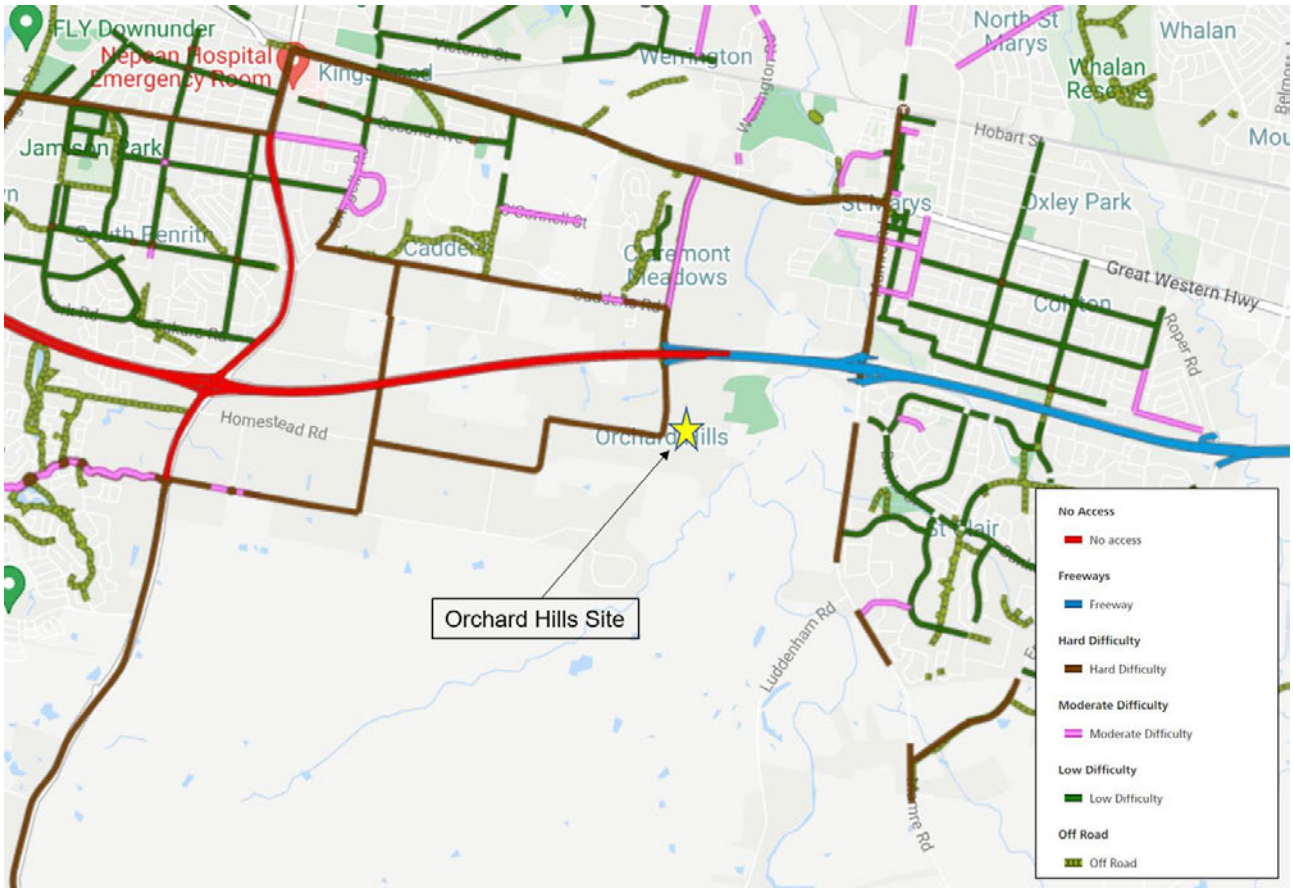


Figure 5: Existing Cycle Routes around Orchard Hills site

Source: https://roads-waterways.transport.nsw.gov.au/maps/cycleway_finder

2.5. Existing traffic volume and level of service

The EIS of Sydney Metro Western Sydney Airport (Technical Paper 1 Transport) documents the existing AM and PM traffic volumes in 2019 and mid-block Level of Service (LoS) around Orchard Hills site, as shown in Table 1.

Table 1: Existing traffic volume (2019)

Location						
			Volume (pcu/h)	LoS	Volume (pcu/h)	LoS
Kent Road (south of the M4)	Northbound	900	420	B	130	A
	Southbound	900	110	A	240	A

Source: EIS Technical Paper 1 Transport

The EIS shows that during the AM peak period, Kent Road (south of the M4 Motorway) currently operates at Level of Service (LoS) B in the northbound direction and LoS A for the southbound direction. During the PM peak period, Kent Road (south of M4 Motorway) currently operates at LoS A in both directions. This shows that Kent Road has a low volume of traffic and operates well below capacity.

The EIS also documents the intersection performance of Kent Road/M4 Motorway interchange and Kent Road/Lansdowne Road intersection for 2019 using SIDRA modelling. The study shows that the interchange operates satisfactorily at LoS B in both AM and PM peak periods, with the highest delay observed in the AM peak (21 seconds). Kent Road/Lansdowne Road intersection operates satisfactorily at LoS A. The EIS results indicate that both intersections in the vicinity of the site would have ample spare capacity to accommodate additional traffic arising from the construction activities.

2.6. Construction Support Works

CPG JV will be undertaking construction support works including driveway installation as outlined in the approved site establishment CTMP as well as widening and re-sheeting of the intersection of Kent Road and Lansdowne Road to facilitate swept path of construction vehicles and line of sights. Refer to **Error! Reference source not found.** for drawings showing extent of works.

The intersection works are scheduled to commence in the first week of September and are expected to be completed within a week. These works will be completed prior to commencement of tie in of the side track. As such, the additional construction traffic will be minimal associated with the upgrade works, and therefore construction traffic impact will be minimal on the surrounding road network. TGS for these works are included in **Error! Reference source not found.**.

3. Site Operations

Duration: Approximately 25 months

Commencement Date: September 2022 till October 2024

3.1. Works required

Orchard Hills site operation involves establishment and operation of three main components, namely, Dive site, Civil Site and TBM site. The site layout is shown in Figure 6.

Figure 6: Proposed Orchard Hills site layout

The scope of works during the site operation include, but are not limited to:

- Excavation of Dive site
- Construction of site offices
- Construction of piling/crane platforms
- Spoil haulage from TBM site
- Segment delivery to TBM site
- Concrete and material delivery to the site
- Demobilisation of site at the completion of project

Traffic generating activities during the works involve the movement of light and heavy vehicles such as concrete trucks, tippers, bin trucks, single unit trucks, truck and dogs, semi-trailers and B doubles (for TBM segment delivery). Machinery includes excavators, mobile and truck mounted cranes, concrete pumps and miscellaneous small machinery.

Works will generally be undertaken during standard construction hours of 7AM to 6PM Monday to Friday and 8AM to 1PM on Saturdays, with no works to be taken on Sunday and public holidays in accordance with SSI Planning Approval Condition E38. The project is 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).

3.2. Construction traffic

The construction traffic generated by Orchard Hills site during peak activities is expected to remain consistent with the EIS. Table 2 shows the summary of the proposed construction traffic with a comparison with the EIS construction traffic, taking into consideration staff movements, light vehicle deliveries and heavy vehicle deliveries.

Table 2: Peak hour construction traffic generation during peak activities

Vehicle Type	EIS						CPG JV					
	AM Peak (7:30am to 8:30am)			PM Peak (4:30pm to 5:30pm)			AM Peak (7:30am to 8:30am)			PM Peak (4:30pm to 5:30pm)		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
LV staff	178	0	178	0	178	0	178	0	178	0	178	0
LV Deliveries	2	2	4	2	2	4	2	2	4	2	2	4
HV Deliveries	20	20	40	20	20	40	20	20	40	20	20	40

Reference: EIS Technical Paper 1 Transport

The proposed construction activities will generate 40 heavy vehicle movements (arrival and departure) in the AM and PM peak hours during the peak construction activities for spoil and other activities associated with site operations phase of works. These heavy vehicle movements involve 19m long truck and dogs and semi-trailers.

Light vehicle deliveries will be up to four light vehicle movements (arrival and departure) in the AM and PM peak hours.

These traffic volumes will be no more than the EIS traffic volumes as shown in Table 2. Refer to section 3.6 for cumulative impact of works on surrounding road network.

Deliveries, including light and heavy vehicles are expected to be distributed equally throughout the construction hours. Delivery vehicles are to enter and exit the Orchard Hills site within the same hour.

The types of heavy vehicles that are expected to be used at the site are summarised in Table 3.

Table 3: Proposed truck types for Orchard Hills site operation

Truck type	Capacity (in tonnes)
Body Truck	15
Semi-trailer	25
Truck and Dog	30
Dry Cement Semi-trailer	25
B-Double (42t)	42

Source: EIS Technical Paper 1 Transport

3.3. Construction Parking and Access

CPG JV proposes to provide a total of 229 parking spaces for construction workers at the Orchard Hills site, including 21 parking spaces located to the south of Lansdowne Road and 208 parking spaces to the north of the site with direct access off Kent Road. These parking areas will be accessed at the existing gates restricted to light vehicle access only.

There will be a maximum of 220 workers on-site across any stage of construction works at Orchard Hills site. Therefore, there will be sufficient parking to accommodate the construction workforce with a surplus of 9 parking spaces, even if all workers and staff drive to site. Notwithstanding this, carpooling will be encouraged amongst all construction workers to minimise the traffic impacts on the surrounding road network.

The EIS shows the workforce at Orchard Hills site will be 300 during the peak construction activities. However, CPG proposes a workforce of up to 220 construction workers and office staff at any one time, therefore it is anticipated that traffic generation will be no more than the EIS estimate of 178 movements (arrival and departure) in the peak hours.

The majority of the construction workers will arrive before 7:00 am while the arrival of haulage trucks will schedule to occur at 7:30 am to minimise traffic impact on the surrounding road network. It is expected that no staff will exit the site during the morning peak hour or enter the site during the evening peak hour.

3.4. Site entry and exit

The site entry and exit as approved in the site establishment CTMP will be used during the site operation. This CTMP proposes modification of site access/egress on the south side of Lansdowne Road for light vehicles and heavy vehicles. VMPs for each stage of works are included in **Error! Reference source not found.**.

The approved and additional site access and egress are shown in Figure 7 and Figure 8.

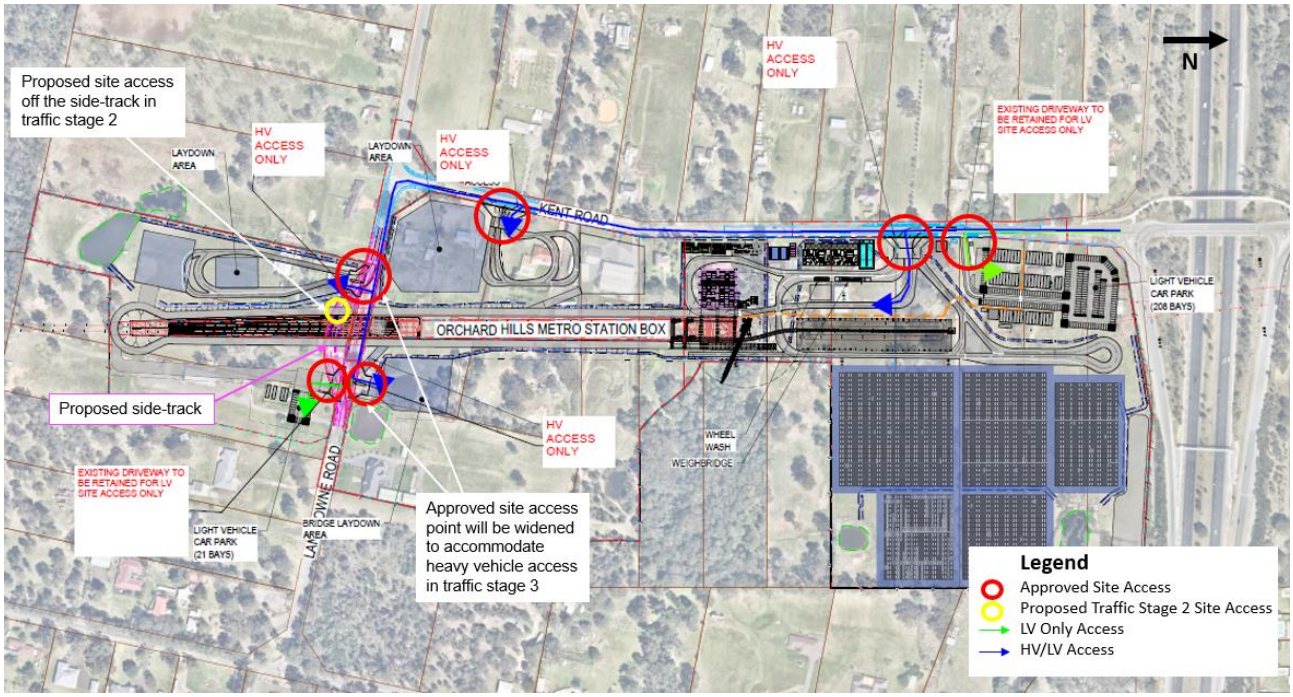


Figure 7: Approved and proposed entry gates for Orchard Hills site

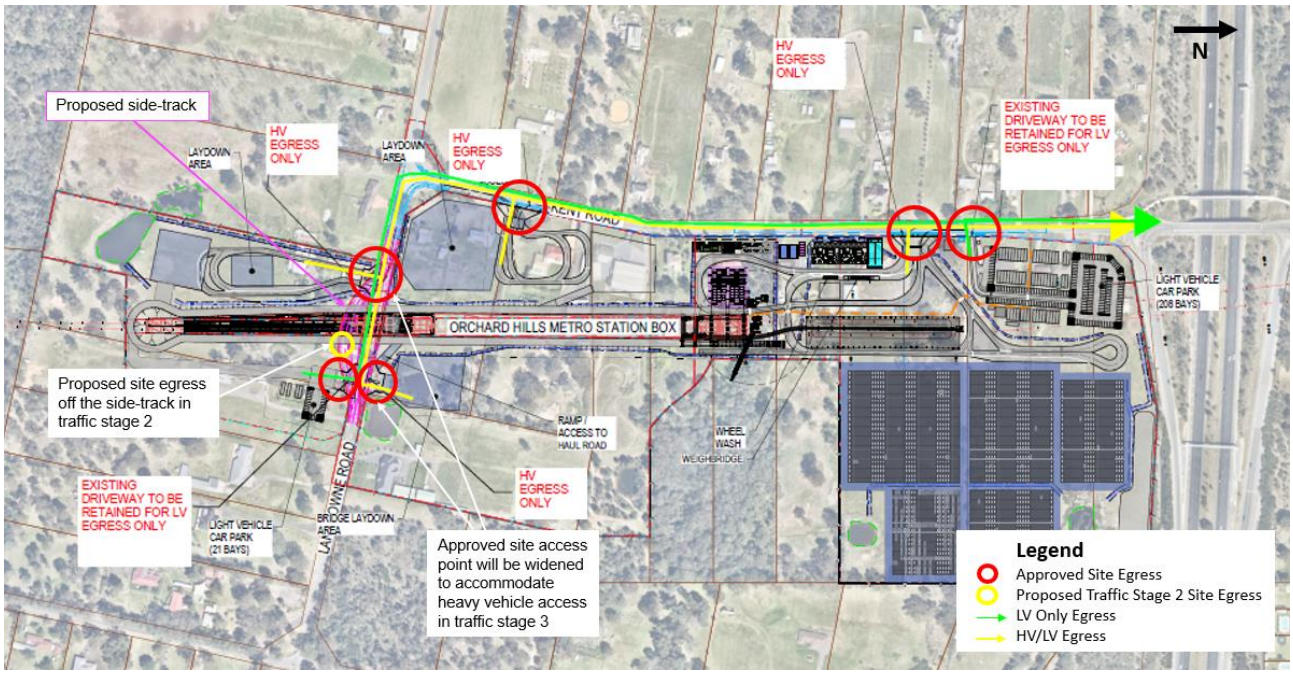


Figure 8: Approved and proposed exit gates for Orchard Hills site

The approved access/egress gates include:

- A site access/egress for light vehicles on Kent Road to/from the car park (208 spaces) located at the north west corner of the site.
- Two access/egress gates on Kent Road, with one located approximately 180m south of M4 Motorway off-ramp and another one approximately 100m north of the Kent Road/Lansdowne Road intersection. These accesses are used for both light vehicle and heavy vehicle deliveries.
- An access/egress gate on Lansdowne Road approximately 80m east of Kent Road.
- An access/egress gate on Lansdowne Road approximately 160m east of Kent Road.
- A car park access/egress with a capacity of 21 spaces is located south of Lansdowne Road. This gate is for light vehicles only.

The additional access/egress gates being proposed include:

- Two access/egress gates on the side-track south of Lansdowne Road when the side-track is operational in Traffic Stage 2, and subsequently modified with direct access on Lansdowne Road when the road bridge becomes operational in Traffic Stage 3.

A summary of the proposed site access/egress is shown in Table 4 and Figure 9. The number of site gates along Lansdowne Road will not change, however, the location of the gates will change during Traffic Stage 2 of works (to connect with side-track) and back along Lansdowne Road during Traffic Stage 3. The changes are detailed in Lansdowne Road Traffic Stage 1 to 3 (Section 4.2, Section 5.2 and Section 6.2 of this CTMP).

Table 4: Summary of proposed site access/egress at Orchard Hills site

Gate Number	Status (Approved or Proposed)	Location	Access to	Access and Egress Movement	Vehicle Type
01	Approved	East side of Kent Road, approx. 140m south of the westbound off ramp at the M4 interchange	Workforce car park at north	Left in and right out	Light vehicle only

Gate Number	Status (Approved or Proposed)	Location	Access to	Access and Egress Movement	Vehicle Type
			construction site		
02	Approved	East side of Kent Road, approx. 180m south of the westbound off ramp at the M4 Motorway	TBM Site	Left in and right out	Heavy vehicles and light vehicles
03	Approved	East side of Kent Road, approx. 100m north of the Kent Road/Lansdowne Road intersection	Civil Site	Left in and right out	Heavy vehicles and light vehicles
04	Approved	South side of Lansdowne Road, approx. 120m east of the Kent Road/Lansdowne Road intersection – with direct access of Lansdowne Road	Dive Site	Right in and left out	Heavy vehicles and light vehicles
05	Approved	North side of Lansdowne Road, approx. 220m east of Kent Road/Lansdowne Road intersection	Civil Site	Left in and right out	Heavy vehicles and light vehicles
06	Approved	South side of Lansdowne Road, approx. 240m east of Kent Road/Lansdowne Road intersection	Workforce car park at south construction site	Right in and left out	Light vehicle only
2a	Proposed	South side of Lansdowne Road, approx. 120m east of Kent Road/Lansdowne Road intersection – with direct access off the side-track	Dive Site	Right in only	Heavy vehicles and light vehicles
2b	Proposed	South side of Lansdowne Road, approx. 180m east of Kent Road/Lansdowne Road intersection – with direct access off the side-track	Dive Site	Left out only	Heavy vehicles and light vehicles

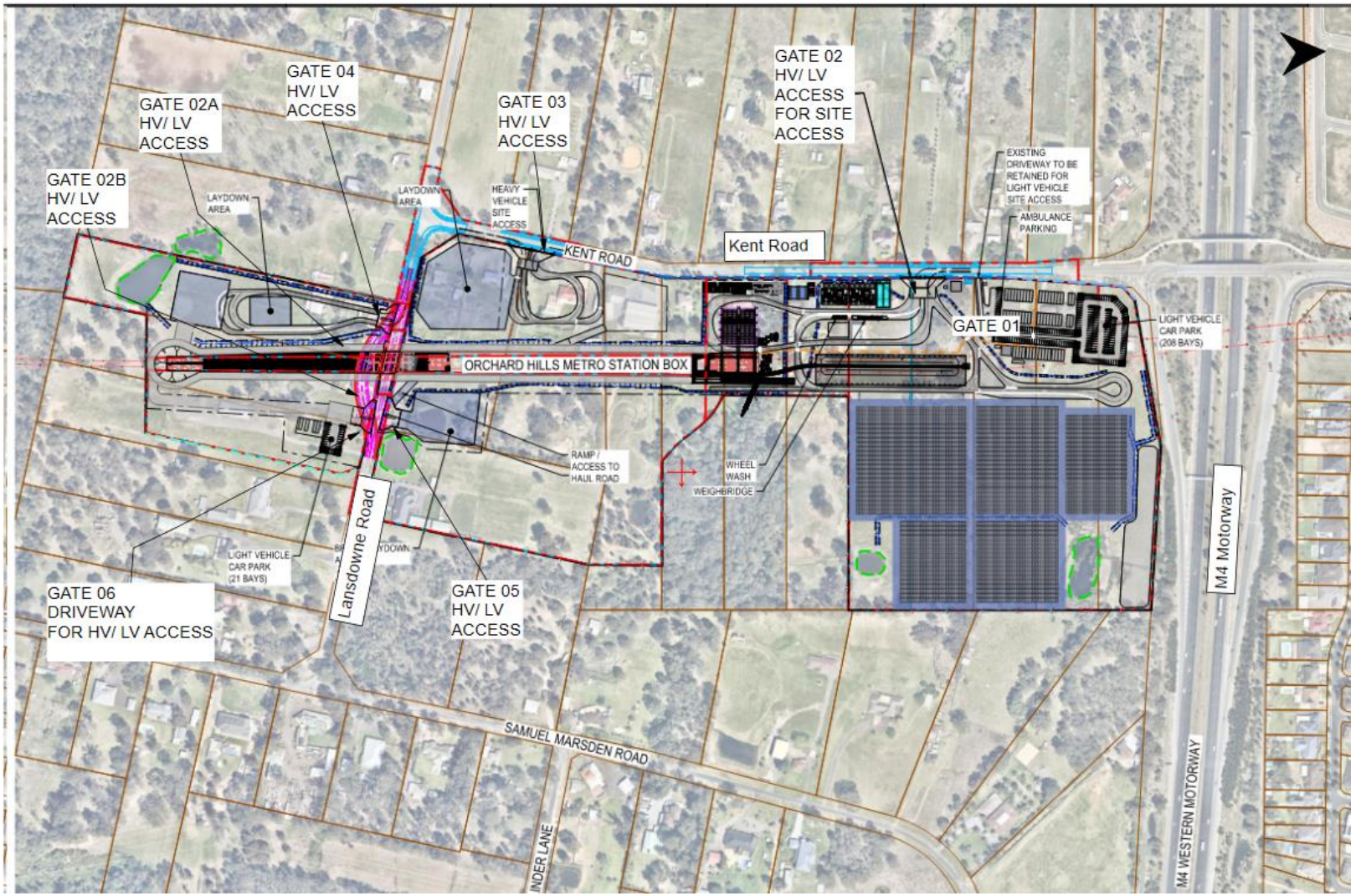


Figure 9 Gate Locations

3.5. Speed reduction

CPG propose to implement a 40km/h roadworks speed zone along the following roads for vehicles to travel past the Orchard Hills site at a lower and safer speed limit during the SBT works:

- Kent Road between 180m south of M4 Motorway off-ramp and Lansdowne Road
- Lansdowne Road between 140m west of Samuel Marsden Road and 60m west of Kent Road

The Traffic Guidance Schemes (TGSs) presented in **Error! Reference source not found.** show the extent of the 40km/h roadworks speed zone and the associated roadworks signs and traffic management measures.

The TGSs have been prepared according to TCaWS version 6.1 (2022) to warn motorists of the changed traffic conditions on Kent Road and Lansdowne Road. Sufficient sight distance is available in a straight road alignment on Kent Road and Lansdowne Road, allowing motorists to read and interpret all temporary signage and adapt to the changed traffic conditions in the area. For the temporary curved road alignment of the side-track on Lansdowne Road in Traffic Stage 2, appropriate hazard markers will be in place to warn of the changed road alignment. SSD checks have also been completed as part of the design process and adequate sight distance will be available for driveways from CPG sites and adjacent properties. Refer to Figure 15 for Stopping Sight Distance checks.

Temporary static signs will be installed to provide warning to motorists of the changes in traffic conditions and inform them of traffic management measures in place, including but not limited to, Road Work Ahead signs, roadworks speed signs, Trucks Entering warning signs and boom barrier warning signs etc, depending on the traffic stages on Lansdowne Road.

The 40km/h roadworks speed zone on Kent Road southbound will start approximately 110m south of the M4 motorway off ramp, which is approximately 20m north of Gate 01 (light vehicle access/egress) and 70m north of Gate 02 (heavy vehicle access/egress). The lower and safer speed limit will influence motorists to reduce speed past the construction site gates along Kent Road, and hence make interface safer between construction and general traffic. The temporary Side track (Traffic Stage 2) has been designed for 40km/h speed limit due to properties on both sides of the site.

CPG proposes to apply for Speed Zone Authorisation through the Oplinc Road Occupancy Licence process for the duration of works.

In order to assess whether the speed reduction will impact on the operation of the off ramp which is located approximately 110m to the north of the start of the roadworks 40km/h zone, a review of the SCATS count data between 20 June 2022 and 27 June 2022 was undertaken. The SCATS count data indicates that Kent Road carries low traffic volume as follows:

- AM peak hour (7:45am and 8:45am)
  - 260 vph northbound
  - 122 vph southbound
- PM peak hour (3:15pm and 4:15pm)
  - 203 vph southbound
  - 99 vph northbound
- Saturday peak hour (12:30pm and 1:30pm)
  - 96 vph southbound
  - 73 vph northbound.

Figure 10 and Figure 11 show the summary of SCATS data for average hourly traffic volume of Kent Road (south of M4 Motorway) on the weekdays and the weekend.

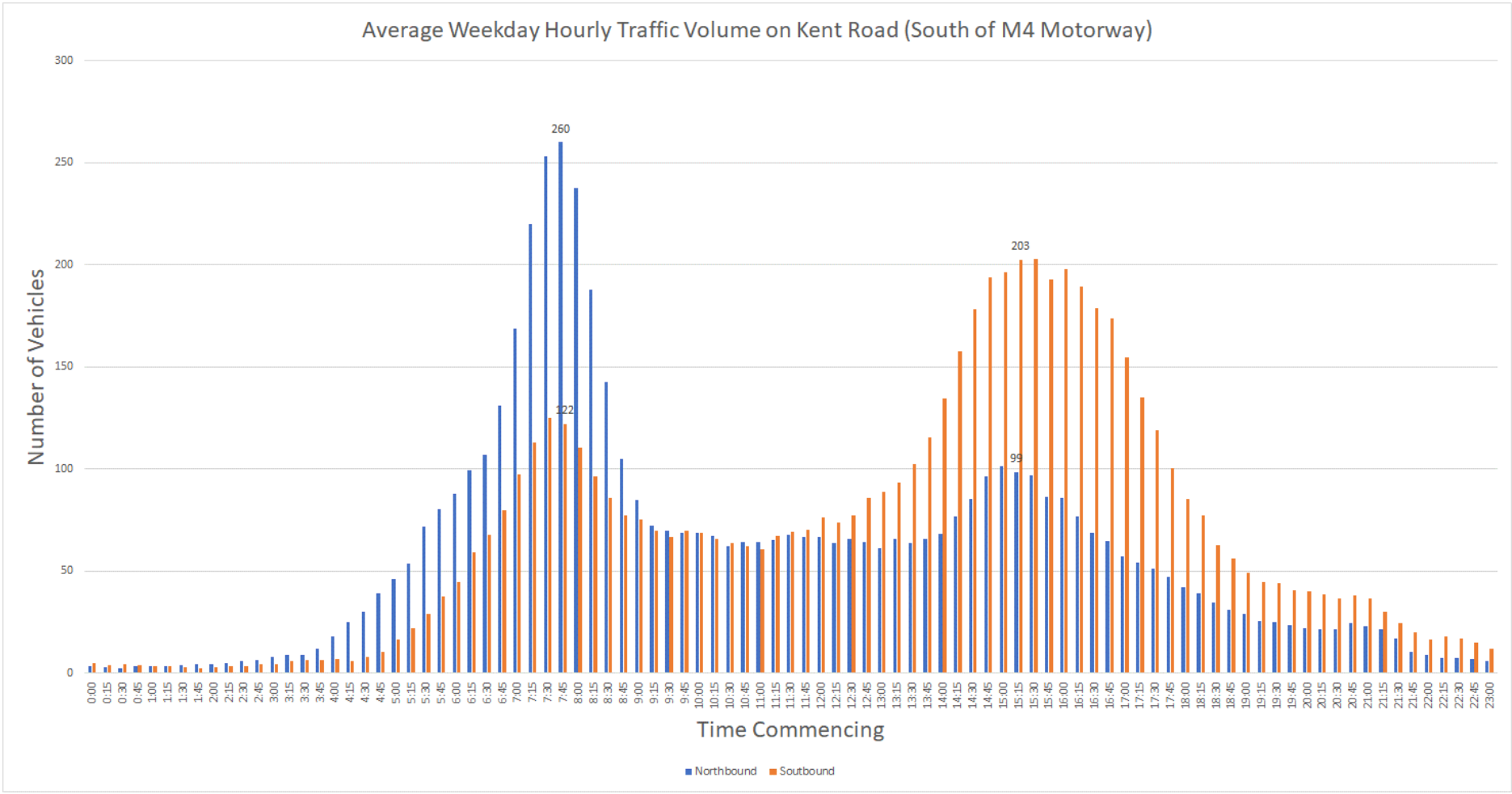


Figure 10: Average Weekday Hourly Traffic Volume on Kent Road (South of M4 Motorway)

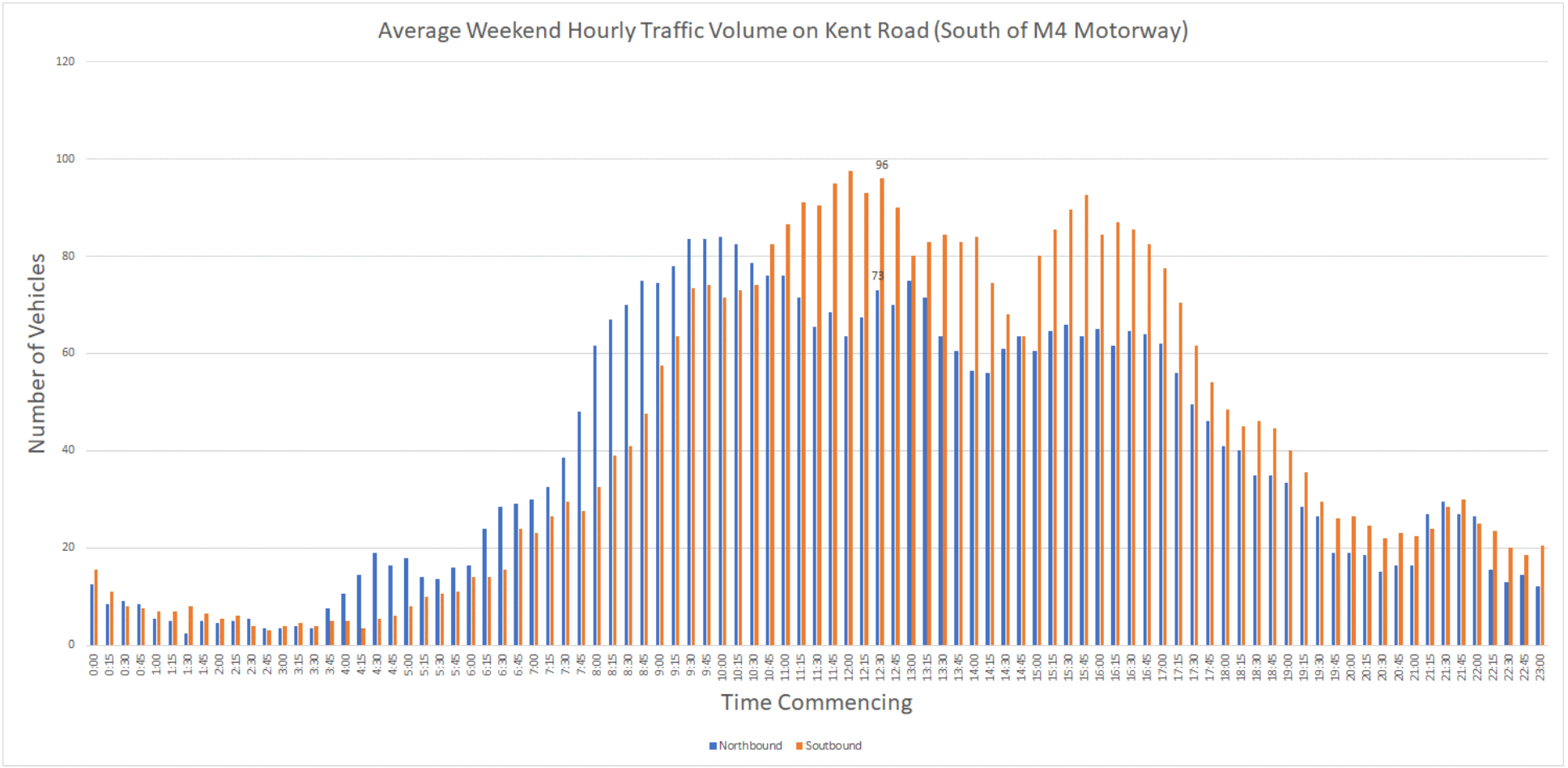


Figure 11: Average Weekend Hourly Traffic Volume on Kent Road (South of M4 Motorway)

It is clear that the traffic volume is low with up to 203 vph on Kent Road southbound during the busiest peak hour, consisting of 71 vph turning left from the off ramp and 132 vph travelling southbound straight through the interchange. This is equivalent to three to four vehicles per minute, of which only one vehicle comes from the M4 off ramp.

Furthermore, Kent Road has a straight road alignment on a flat level that provides good sight distance for motorists to observe the 40km/h Ahead sign and the duplicated 40km/h roadwork speed limit signs. The available distance of 110m between the M4 off ramp and the start of the 40km/h roadworks speed zone exceeds the minimum stopping sight distance of 92m based on a 70km/h design speed in accordance with Austroads.

On the above basis, the starting point of the 40km/h roadwork speed zone on Kent Road southbound is not anticipated to impose any traffic and safety issues to the traffic approaching from the M4 off ramp, given the low traffic volume and the good sight distance on Kent Road.

CPG JV proposes to install speed monitoring VMS post implementation of speed zone reduction to enforce signposted speed limits along Kent Road and Lansdowne Road. Refer to **Error! Reference source not found.** for proposed location of VMS boards.

3.6. Cumulative impacts

The EIS documents the performance of intersections in proximity of the Orchard Hills site during the peak construction activities as shown in Table 5. Peak construction activities are primarily associated with haulage operations for the transportation of spoil to the nominated disposal sites.

All intersections would operate satisfactorily at LoS B or better, with or without the construction activities. These results indicate that the additional traffic volume associated with the peak construction activities will not impose any noticeable traffic impact on the road network, even in the worst case scenario when the traffic volume is anticipated to be the highest during the peak construction activities.

Table 5: EIS Peak construction year intersection performance

Intersection	AM Peak				PM Peak			
	Future year without construction		Future year with construction		Future year without construction		Future year with construction	
	Delay (sec)	LoS	Delay (sec)	LoS	Delay (sec)	LoS	Delay (sec)	LoS
Kent Road/Caddens Road (Signals)	25	B	24	B	26	B	24	B
Kent Road/M4 Western Motorway On-ramp (Signals)	5	A	7	A	5	A	6	A
Kent Road/M4 Western Motorway Off-ramp (Signals)	21	B	23	B	19	B	22	B
Kent Road/Orchard Hills TBM Site Access (Priority Control)	-	-	24	B	-	-	17	B
Kent Road/Orchard Hills Station Site Access (Priority Control)	-	-	20	B	-	-	13	A
Kent Road/Lansdowne Road (Priority Control)	7	A	12	A	18	B	21	B

Intersection	AM Peak				PM Peak			
	Future year without construction		Future year with construction		Future year without construction		Future year with construction	
	Delay (sec)	LoS	Delay (sec)	LoS	Delay (sec)	LoS	Delay (sec)	LoS
Lansdowne Road/Orchard Hills Site Access (Priority Control)	-	-	10	A	-	-	7	A

Source: EIS Technical Paper 1 Transport

Given the proposed construction traffic generation during the peak construction activities is consistent with the EIS, traffic impact associated with the construction works will be no worse than the intersection performance as documented in the EIS.

The EIS also considered cumulative traffic impacts taking into account the concurrent projects including the M12 Motorway and Western Sydney International Airport. However, the above intersections do not overlap with these construction projects, and hence the EIS did not identify any further impacts as a result of these concurrent projects near the Orchard Hills site.

CPG JV will liaise with other Sydney Metro Western Sydney Airport (SMWSA) contractors through forums established by SMWSA, including TTLG and TCG, to ensure cumulative impact is managed. Sydney Metro's Contractor for SCAW presented a proposal for installation of gate along Lansdowne Road at a TCG in August 2022, CPG JV will coordinate with adjacent contractors to manage cumulative impact of works once their construction methodology is finalised.

4. Lansdowne Road – Traffic Stage 1

Duration: Approximately 2 weeks

Commencement Date: September 2022

4.1. Works required

Traffic stage 1 on Lansdowne Road pertains to the tie-in between the proposed side-track and Lansdowne Road. The tie-in will be undertaken under short-term road occupancy on Lansdowne Road. The final line-marking for switching traffic on the side track will be completed on the day of the switch.

The scope of works during this traffic stage includes, but are not limited to:

- Installation of Klemfix and temporary barriers at the end of each shift to keep general traffic off the side-track till opening date
- Tie-in of type 1 to type 2 pavement
- Line marking
- Installation of signage
- Installation of temporary barriers on the side-track

Construction traffic generation during the works involve light and heavy vehicles such as single unit trucks, flat-bed trucks and truck and dogs. As no major construction works are expected during this traffic stage, only miscellaneous small machinery will be required to be delivered by flat-bed trucks.

Works will generally be undertaken during standard construction hours of 7AM to 6PM Monday to Friday and 8AM to 1PM on Saturdays, with no works to be taken on Sunday and public holidays in accordance with SSI Planning Approval Condition E38. The project is 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).

4.2. Proposed site entry and exit

The site entry and exit on Lansdowne Road during Traffic Stage 1 will remain consistent with those approved in the site establishment CTMP. The approved site entry and exit arrangements in the site establishment CTMP is detailed in Section 3.4. Refer to Figure 12 and VMP included in **Error! Reference source not found.** for proposed entry and exit arrangements in this stage of works.

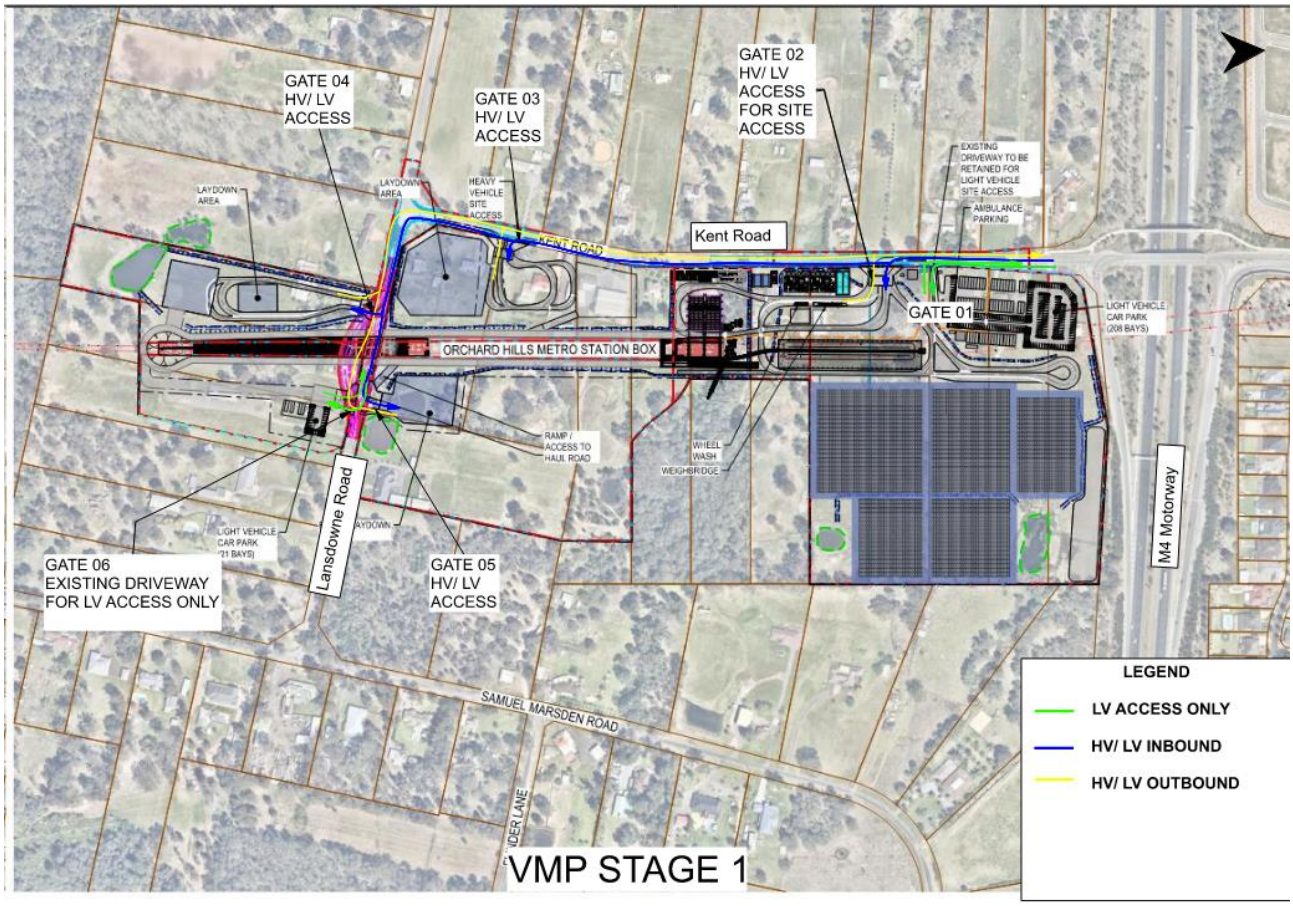


Figure 12 Site Entry and Exit Locations in Stage 1

4.3. Traffic control measures

Short-term lane closures are required on Lansdowne Road to accommodate the tie-in of the side-track construction works. Appropriate signage will be installed prior to the construction works and short-term lane closures. This includes warning signs and regulatory as shown in TGS' included in **Error! Reference source not found.** signs to inform motorists of short term traffic changes and the associated traffic management measures. These signs will be installed taking into consideration the stopping sight distance as well as the minimum spacing of signs to enable motorists to read the messages in response to the traffic condition changes.

The westbound lane on Lansdowne Road will be closed to facilitate the construction of the side-track. This will be managed by the use of portable boom barriers that will be installed at each side of the tie-in works on Lansdowne Road to enable the contraflow operation. Refer to **Error! Reference source not found.** for the TGS that details the location of the boom barriers and the associated short-term traffic control measures.

The portable boom barriers will hold traffic in one direction to enable traffic in the opposite direction to travel past the work area in the eastbound lane during the closure of the westbound lane. They allow traffic controllers to stay off the road as they will be able to control the boom barriers with a remote control.

Traffic cones will also be placed along the work zone to separate the general traffic from the work area.

The lane closure and associated signage will only be on display during the construction work hours. Outside of construction hours, the work area along Lansdowne Road westbound will be demobilised and associated signages is to be removed. The westbound lane will be reinstated to maintain two-way traffic flow on the eastbound and westbound lanes between shifts.

Barriers and/or Klemfix will also be installed to ensure that vehicles do not travel onto the side-track which will be under construction.

A 40km/h roadworks speed limit will be applied along Lansdowne Road as discussed in Section 3.5. A speed zone of 40km/h is proposed as workers on foot or operating machinery can be closer than 1.5m to general traffic with no intervening physical barrier. Construction workers will be undertaking the tie-in works on the road, alongside general traffic.

4.4. Traffic and Transport impact – Short Term Works

4.4.1. Impact on traffic flow

A contraflow traffic arrangement as shown in TGS included in **Error! Reference source not found.** will be implemented with the use of portable boom barriers during the short-term closure of the westbound lane on Lansdowne Road. Motorists will be required to stop briefly at the boom barrier to yield to traffic in the opposite direction as only the eastbound lane will be operational to accommodate two-way traffic. The duration of the lane closure will be kept to a minimum to avoid long delays on Lansdowne Road.

An analysis has been undertaken to estimate the length of queue at the portable boom barriers on Lansdowne Road eastbound and westbound.

While no traffic volume data is available for Lansdowne Road, review of the SCATS data, as discussed in Section 3.5, indicates that Kent Road carries 382 vehicles (two-way) south of the M4 interchange in the AM peak hour (7:45am - 8:45am) being the busiest peak hour traffic volume. Considering Lansdowne Road connects with Samuel Marsden Road which is cul-de-sac serving a small number of farm houses, the traffic volume is anticipated to be lower than that on Kent Road.

The following assumptions have been adopted in the analysis:

- Considering the low number of farm houses (27 houses) along Lansdowne Road (east of Kent Road), Samuel Marsden Road and Flinders Avenue, excluding the properties that have been acquired as part of the project, it is expected that 27 vph would occur in both AM peak hour and PM peak hour. This is based on the TfNSW's Technical Direction (2013), which provides revised rates of 0.99 trips per dwelling in the PM peak hour and 0.95 trips per dwelling in the AM peak hour for low-density residential dwellings. The Technical Direction is used as a supplement to the TfNSW's Guide to Traffic Generating Developments, which provide trip rates from different land uses. Conservatively, the traffic volume has been rounded up to 30 vph in the peak hours.
- These trips have been distributed 20% inbound (eastbound) and 80% outbound (westbound) in the AM peak given most residents leave home for work or other purposes via Lansdowne Road towards the wider road network. Conversely, the trips would be 80% inbound (eastbound) and 20% outbound (westbound) in the PM peak for the mostly homebound trips.
- Lansdowne Road eastbound and westbound vehicles to be held at the start of the work zone by a portable boom barrier for about 29 seconds (based on approximately 200m distance between the two portable boom barriers and motorists travelling at a low speed of 25km/h within a 40km/h roadworks speed zone). Conservatively, this has been increased to about 40 seconds for analytical purposes.

Using the calculation set out in the Austroads publication, “Guide to Traffic Management Part 2: Traffic Theory (2008)”, it is possible to work out the 98th percentile queue. This calculation as shown in Figure 13 shows that the 98th percentile queue is approximately 2 vehicles in the peak direction during the peak hour based on the conservative assumptions as shown above. Therefore, the closure of Lansdowne Road westbound lane under contraflow arrangement is not anticipated to impose any adverse traffic impacts on Lansdowne Road and the adjacent Kent Road / Lansdowne Road intersection given the low traffic volume on this road.

Austroads Queuing Analysis			
Sourced from: 'Austroads Guide to Traffic Management Part 2: Traffic Theory'			
Assignment Code:			
Assignment Name:			
Date:			
Consultant:			
Arrivals	r value	24	veh/hr
Service Time	s	40	sec/veh
		90	veh/hr
Degree of Saturation	ρ	0.27	
Nominated Percentile		98	th %ile
		0.02	
Queue (Nominated Percentile)		1.96	veh
Queue (Mean)	E(n)	0.36	veh
	E(m)	0.10	veh

Figure 13: 98th Percentile Queuing Analysis

Given the Traffic Stage 1 occurs well before the peak construction activities of the project, the construction traffic volume that will occur during this stage will not exceed the traffic generation as shown in Table 2. On this basis, the traffic impact on the road network will be no worse than the EIS intersection performance as shown in Table 5.

4.4.2. Impact on public transport

There will be no impact to public transport from the construction works as there are no public transport services along Lansdowne Road and Kent Road (south of M4 Motorway). There are a number of school services that travel along Kent Road and Lansdowne Road, however, the impact will be minimal as a result of this stage of works. As construction works will be contained within the site vicinity and the frontage roads, bus services to the north of M4 Motorway on Kent Road as well as bus services on Kingswood Road will not be impacted. School services noted in Section 2.3

4.4.3. Impact on pedestrians

There are no designated pedestrian footpaths located on Lansdowne Road or Kent Road (south of M4 Motorway). Considering this and the locality of the area, pedestrian activities along the site frontage are considered minimal and consistent with the EIS.

On-site traffic controls will be in place to assist pedestrians on Lansdowne Road past the work site during the short-term lane closures required for the tie-in construction works.

The shared pedestrian and cyclist path on Kent Road, located to the north of M4 Motorway off-ramp, will not be impacted by the project as construction works will be contained within the site frontage on Lansdowne Road and Kent Road (south of M4 Motorway).

In addition, site inductions and toolbox talks will also be in place to raise awareness of CPG JV construction workers and drivers about existing road conditions around the site.

4.4.4. Impact on cyclists

There are no designated cycle routes along Lansdowne Road or Kent Road (south of M4 Motorway), though cyclists may share a traffic lane with vehicles. Considering this and the remote land uses of the surrounding area, cycle movements are expected to be low and hence construction impact on cyclists will be minimal. Notwithstanding this, traffic controls will be in place to assist cyclists on Lansdowne Road to navigate past the work site during the short-term lane closures required for the tie-in works.

The shared pedestrian and cyclist path on Kent Road, located to the north of M4 Motorway off-ramp, will not be impacted by the project as construction works will be contained within the site frontage.

4.4.5. Impact on property and utility access

There will be no impacts to surrounding residents, properties or businesses, which is consistent with the EIS. Accesses for all residents, properties and businesses will be maintained during all stages of the construction works proposed in this plan. Access for utility providers/ maintainers will also not be impacted.

It is noted that some properties will have been acquired by the project within the project boundary. All construction works will be contained within the site vicinity.

The 98th percentile queuing analysis indicates up to two vehicles will be queued in the peak direction at the boom barriers during the closure of the westbound lane on Lansdowne Road. Given the queue length is minimal in the peak hours, no adverse traffic impacts are anticipated and property access will be maintained at all times.

4.5. Traffic Guidance Scheme/ Road Occupancy License identified works

It is proposed that short-term lane closure on Lansdowne Road will be required to accommodate the construction of the tie-in between the side-track and Lansdowne Road during Traffic Stage 1. A TGS has been developed to show the required traffic control measures to manage temporary works to guide road users past the site areas safely, which is shown in **Error! Reference source not found.**

Necessary approvals will be obtained with concurrence of the relevant road authority prior to conducting any works on the road or the road reserve. ROL applications will be submitted in

accordance with the Road Occupancy Licensing Guidelines to the Traffic Management Centre (TMC).

4.6. Required Council approvals

Works that have been identified as requiring Council approval includes the delivery of Oversize Overmass (OSOM) plant/equipment. No OSOM deliveries are expected during this stage of the project, as works will generally pertains to the tie-in of Lansdowne Road and the side-track. However, should any OSOM deliveries be required, approval from road authorities and NSW Police will be managed as required under the OSOM permit process.

Refer to section 7.3 for OSOM permit approval process.

5. Lansdowne Road – Traffic Stage 2

Duration: Approximately 5 months

Commencement Date: Mid-September 2022

5.1. Works required

Traffic Stage 2 on Lansdowne Road pertains to the traffic switch from Lansdowne Road to the side-track. This will direct all traffic to travel on the side-track temporarily during the closure of Lansdowne Road for the road bridge construction.

The scope of works during this traffic stage includes, but are not limited to:

- Removal of Klemfix
- Installation of final line marking
- Installation/ relocation of signage
- Site establishment on Lansdowne Road
- Construction of two site access gates to Dive site directly off the side-track
- Construction of Lansdowne Road bridge

Traffic generating activities during the works involve the movement of light and heavy vehicles such as concrete trucks, single unit trucks, semi-trailers and truck and dogs. Machineries includes excavators, mobile and truck mounted cranes, concrete pumps and miscellaneous small machineries.

Works will generally be undertaken during standard construction hours of 7AM to 6PM Monday to Friday and 8AM to 1PM on Saturdays, with no works to be taken on Sunday and public holidays in accordance with SSI Planning Approval Condition E38. The project is regulated by the NSW Environment Protection Authority and works to be undertaken outside of standard construction hours will need to comply with the requirements of the Environmental Protection License (EPL).

5.2. Proposed site entry and exit

Site entry and exit during Traffic Stage 2 will remain consistent with the approved access and egress in the site establishment CTMP, albeit two additional site access/egress gates will be constructed on the southern side of the side-track as shown in Figure 14. The western gate will allow access movements only, while the eastern gate will allow egress movements only. Light vehicles and heavy vehicles are permitted to use both gates.

The site access arrangement for Lansdowne Road during Traffic Stage 2 is shown in Figure 14. All vehicles are to travel in a forward direction only. Sight distances for access and egress gates have been checked as part of the design approval process and hoarding along the site boundary will be pulled back to maintain adequate sight distance for construction and general traffic. There will be no barriers on the outside curve of side track therefore adequate sight distances will be available. Refer to Figure 15 for Stopping Sight Distance checks. Refer to VMP included in **Error! Reference source not found.** for proposed access/ egress arrangements in this stage of works.

Figure 14: Proposed site access/egress gates on Lansdowne Road during Traffic Stage 2 (indicative purpose only)

The following calculations were conducted for SSD:

- R_T = reaction time = 2 s (AGRD Part 3 Table 5.2)
- V = operating design speed = 40 km/h
- d = coefficient of deceleration = 0.36 (desirable value for most urban and rural road types; AGRD Part 3 Table 5.3)
- a = longitudinal grade +/-2.5%

Sight distance to driveways has been assessed. Table 16 summarises the results of the analysis.

Table 17: Stopping Sight Distance at driveways

SSD	Outcome
48 Lansdowne Road Private Driveway (EB and WB)	Achieved
Western Temporary Driveway (MC23 CH40) (EB and WB)	Achieved
Eastern Temporary Driveway (MC23 CH120) (EB and WB)	Achieved
Permanent case South-western Temporary Driveway (MY60) (EB and WB)	Achieved
Permanent case South-eastern Temporary Driveway (MY70) (EB and WB)	Achieved
Permanent case North-eastern Temporary Driveway (MY80) (EB and WB)	Achieved

Vertical sight distance has been checked against the proposed road diversion long section, and the required SSD can be achieved (for a driver's eye height of 1.25 m above the road for cars).

Figure 15 - SSD Checks from Design Report

5.3. Cross section

Figure 16 shows the proposed cross section of the side-track. Travel lanes will be 3.2m to 3.5m wide with a 0.5m wide shoulder on both sides. Refer to drawings included in **Error! Reference source not found.** for location of cross sections.

TfNSW approved TL-3 temporary concrete barriers with anti-gawk screen will be installed along the inside curve of the side-track.

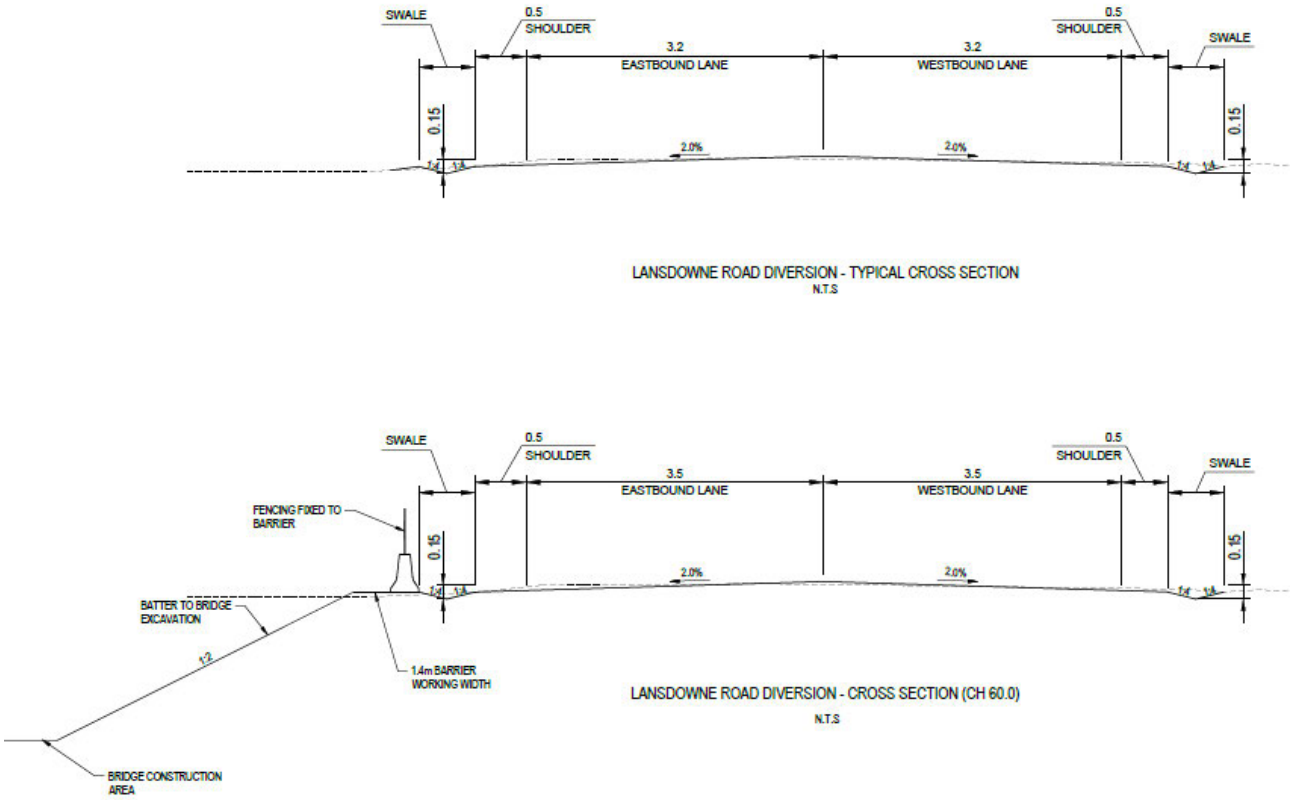


Figure 16: Proposed cross section of side-track during traffic stage 2

5.4. Swept Path

Figure 17 shows the swept path of a 19m semi-trailer accessing the site via the western gate and leaving via the eastern gate. Sufficient clearance can be provided to accommodate the 19m semi-trailer at these access and egress gates. Swept paths have also been provided in **Error! Reference source not found.**.

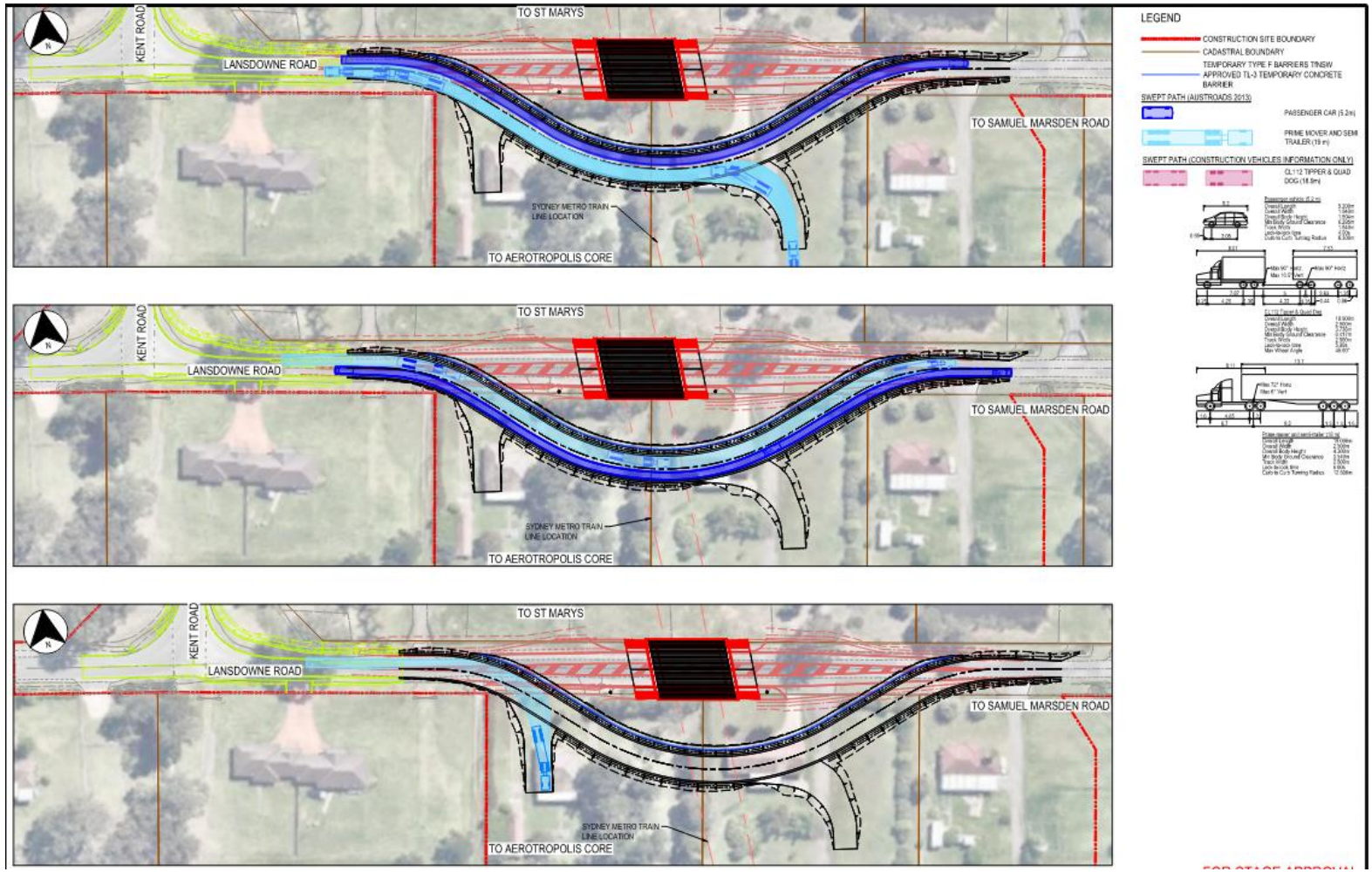


Figure 17: Swept path on side-track during Traffic Stage 2

5.5. Traffic control measures

Appropriate signage will be installed to warn motorists of the changes in traffic conditions for the diversion to the side-track.

The TGS presented in **Error! Reference source not found.** shows the proposed signs that direct traffic from Lansdowne Road to the side-track, and the extent of 40km/h roadworks speed zone in Traffic Stage 2.

Edgeline marking, centreline marking (double barrier lines), raised reflective pavement markers (RRPMs) and hazard markers will be installed to delineate the travel lane on approach to and along the side-track.

TfNSW approved TL-3 temporary concrete barriers will be installed at the crossover points to prevent vehicles from entering the closed section of Lansdowne Road during the construction of the road bridge.

Temporary safety barriers/ chain link fence will also be installed along the side-track. Anti-gawk fencing will be installed atop the safety barriers/ chain link fence so that motorists will not be distracted from the construction activities behind the barriers.

A 40km/h roadworks speed limit will be applied along the site frontage on Kent Road and Lansdowne Road for the safety of vehicle movements past the work site.

Site induction and toolbox talks of site-specific traffic risks will also be undertaken by CPG JV construction workers and drivers to ensure the maximum safety of road users.

5.6. Traffic and Transport impact

5.6.1. Impact on traffic flow

Two-way traffic on Lansdowne Road will be maintained via a switch to the side-track south of the existing alignment. The side-track will be two-way two-lane as consistent with the existing Lansdowne Road but with an addition of approximately 50m travel distance due to the curved road alignment of the side track. This additional travel distance is however considered negligible.

Impacts of the 40km/h roadworks speed zone on Lansdowne Road are expected to be minimal due to the low traffic volume, as discussed in Section 4.4.1.

The proposed site access and egress gates off the side-track will operate in one direction only, with the western gate facilitating the access movements and the eastern gate facilitating the egress movements. This arrangement will minimise traffic conflicts on the side-track.

Given the Traffic Stage 2 occurs well before the peak construction activities of the project, the construction traffic volume that will occur during this stage will not exceed the traffic generation as shown in Table 2. On this basis, the traffic impact on the road network will be no worse than the EIS intersection performance as shown in Table 5.

Site induction and toolbox talks of site-specific traffic risks will also be undertaken by CPG JV construction workers and drivers to ensure the maximum safety of road users.

5.6.2. Impact on public transport

There will be no impacts to public transport from the construction works as there are no public transport services running along the site frontage on Lansdowne Road and Kent Road (south of M4 Motorway). There are a number of school services that travel along Kent Road and Lansdowne Road; however, the impact will be minimal as a result of this stage of works. As construction works will be contained within the site vicinity and the frontage roads, bus services to the north of M4 Motorway on Kent Road as well as bus services on Kingswood Road will not be impacted.

5.6.3. Impact on pedestrians

There are no designated pedestrian footpaths located on Lansdowne Road or Kent Road (south of M4 Motorway). Considering this and the locality of the area, pedestrian activities along the site frontages are considered minimal.

No footpath closures are being proposed and the additional walking distance along the side-track, compared to Lansdowne Road, is considered negligible (less than 50m additional walking distance). Hence, impacts on pedestrians are anticipated to be minimal, which is consistent with the EIS.

The shared pedestrian and cyclist path on Kent Road, located to the north of M4 Motorway off-ramp, will not be impacted by the project as construction works will be contained within the site frontage on Lansdowne Road and Kent Road (south of M4 Motorway).

In addition, site inductions and toolbox talks will be in place to raise awareness for CPG JV construction workers and drivers about existing road conditions around the site.

5.6.4. Impact on cyclists

There are no designated cycle routes along the site frontage on Lansdowne Road or Kent Road (south of M4 Motorway) even though cyclists may share a traffic lane with vehicles. Considering this and the remote land uses of the surrounding area, cyclist activities are considered minimal.

No road or lane closures are being proposed during Traffic Stage 2. The deviation via the side-track imposes less than an extra travel distance of 50m and is considered negligible. Therefore, minimal cyclist impacts are anticipated from the construction works.

The shared pedestrian and cyclist path on Kent Road, located to the north of M4 Motorway off-ramp, will not be impacted by the project as construction works will be contained within the site frontage.

5.6.5. Impact on property and utility access

There will be no impacts on the surrounding residents, properties or businesses. Accesses for all residents, properties and businesses will be maintained during all stages of the construction works proposed in this plan. Access for utility providers/ maintainers will also not be impacted.

5.7. Traffic Guidance Scheme/ Road Occupancy License identified works

It is proposed that speed zone reduction to 40km/h is required on Lansdowne Road and Kent Road along the site frontage during Traffic Stage 2. TGS has been developed to show the required traffic control measures to manage the road traffic and guide road users past the site areas safely, which is shown in **Error! Reference source not found.**.

Road occupancy is not required during this stage. However, should any lane closure or road occupancy be required, necessary approvals will be obtained with the concurrence of the relevant road authority prior to conducting works on the road or road reserve.

5.8. Required Council approvals

Works that have been identified as requiring Council approval includes the delivery of OSOM plant/equipment. OSOM deliveries during this stage may include, but are not limited to TBM deliveries, bridge structure, cranes, piling rigs, Water Treatment Plant. CPG envisages 50 OSOM movements in this stage of works. The permit and approval for these deliveries will be applied through National Heavy Vehicle Regulator's (NHVR's) OSOM permit portal. All requirements from road authorities and NSW Police will be managed as required under the OSOM permit process.

Tentative dates of deliveries for TBMs components for Orchard Hills Dive site are expected to commence in December 2022 and will continue till March 2023. All permits will be obtained prior to the start of the deliveries.

CPG JV will apply for required Council Permits for diversion of traffic to side-track. This section of Lansdowne Road is within an area licenced to Sydney Metro as defined in the Penrith City Council Interface Agreement, and as such this stage of works does not require endorsement by Council's Local Traffic Committee.

Refer to section 7.3 for OSOM permit approval process.

6. Lansdowne Road – Traffic Stage 3

Duration: Approximately 20 months

Commencement Date: February 2023 till October 2024

6.1. Works required

Traffic Stage 3 on Lansdowne Road pertains to the traffic switch from the side-track to the Lansdowne Road bridge that would be constructed in the preceding stage. This new road bridge will act as a permanent road section for Lansdowne Road and has been approved under the formal approval process for permanent structures.

The scope of works during this traffic stage includes, but are not limited to:

- Demobilisation of the side-track
- New Klemfix installation to direct traffic on to Lansdowne Road bridge
- Installation of signages
- Construction of two access gates to Dive site off Lansdowne Road bridge
- Excavation of Dive site
- Material haulages
- Piling works
- Box cut excavation
- Shotcrete spraying

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

Works will generally be undertaken during standard construction hours of 7AM to 6PM Monday to Friday and 8AM to 1PM on Saturdays, with no works to be taken on Sunday and public holidays in accordance with SSI Planning Approval Condition E38.

6.2. Proposed site entry and exit

The site access and egress gates during Traffic Stage 3 will be consistent with those approved in the site establishment CTMP. All site entry and exit locations along Kent Road will be retained as per previous traffic stages. The site access and egress points off the Lansdowne Road side-track will be removed and three site access/ egress locations on Lansdowne Road will be reinstated as per Traffic Stage 1.

The approved site entry and exit gates on the southern side of Lansdowne Road will be widened to suit swept path of the largest vehicles. Similarly, the approved site entry and exit gate will also be widened on the north side of Lansdowne Road on the eastern end of the Lansdowne Road bridge. The site access arrangement for Lansdowne Road during Traffic Stage 3 is shown in Figure 18.

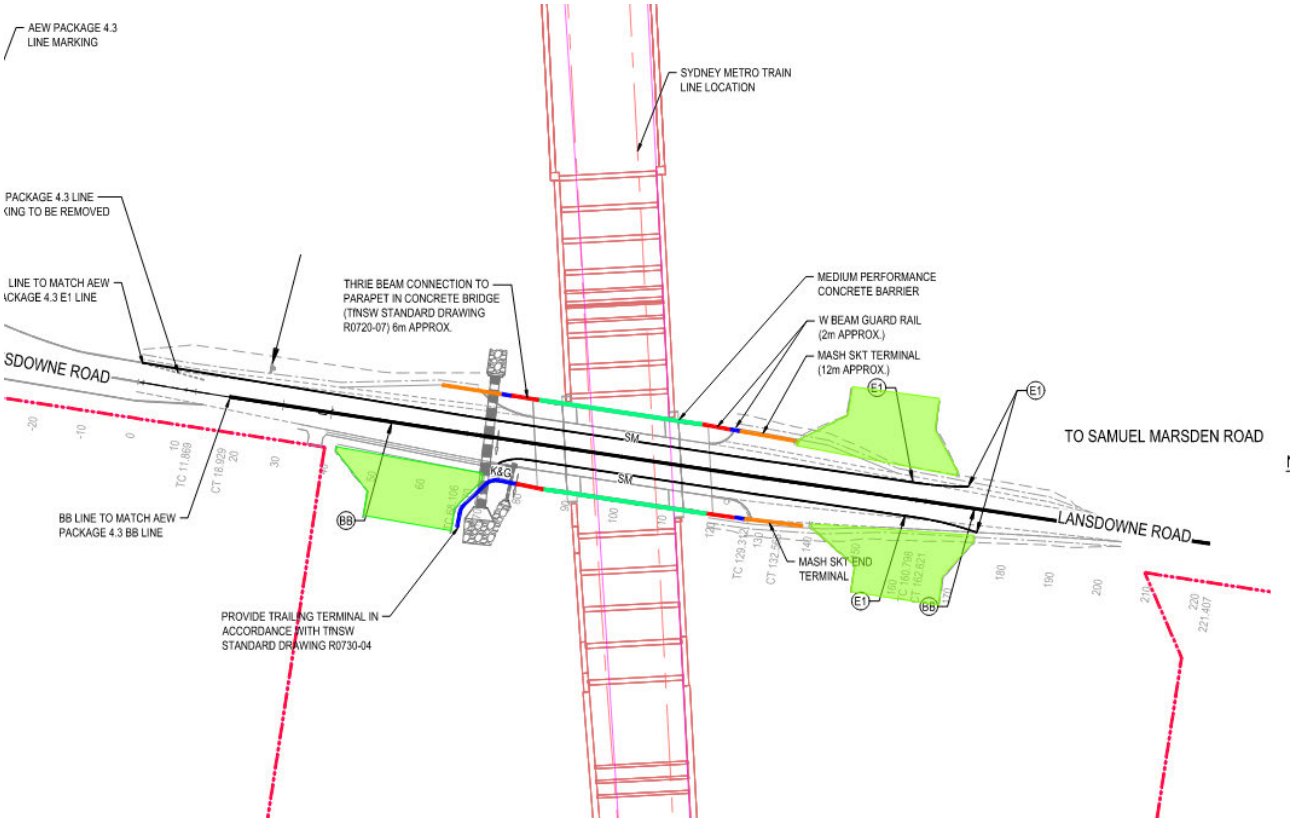


Figure 18: Proposed site access/egress gate on Lansdowne Road during Traffic Stage 3 (indicative purpose only)

6.3. Cross section

Figure 19 shows the proposed cross section of the Lansdowne Road bridge. Refer to drawings included in **Error! Reference source not found.** for location of cross sections.

Travel lanes will be 3.5m wide with a 1.75m wide shoulder on both sides of the road alignment. The lane width is consistent with the Austroads requirement for general road width in an urban environment that would be suitable for future developments in proximity of Orchard Hills metro station.

A 3.35m wide shared path will be provided on both sides of the bridge. The width meets the Austroads requirement for a regional path that would be suitable for the future urbanisation in Orchard Hills.

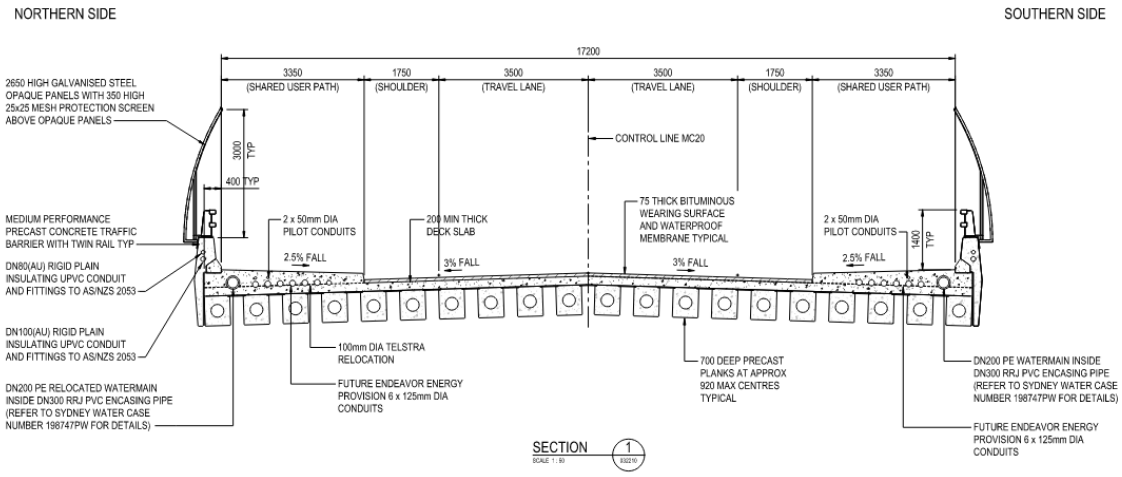


Figure 19: Proposed cross section on Lansdowne Road bridge during traffic stage 3

6.4. Swept Path

Figure 17 shows the swept path of a 19m semi-trailer accessing and leaving the site via the western and eastern gates. Sufficient clearance can be provided to accommodate the 19m semi-trailer at these access and egress gates.

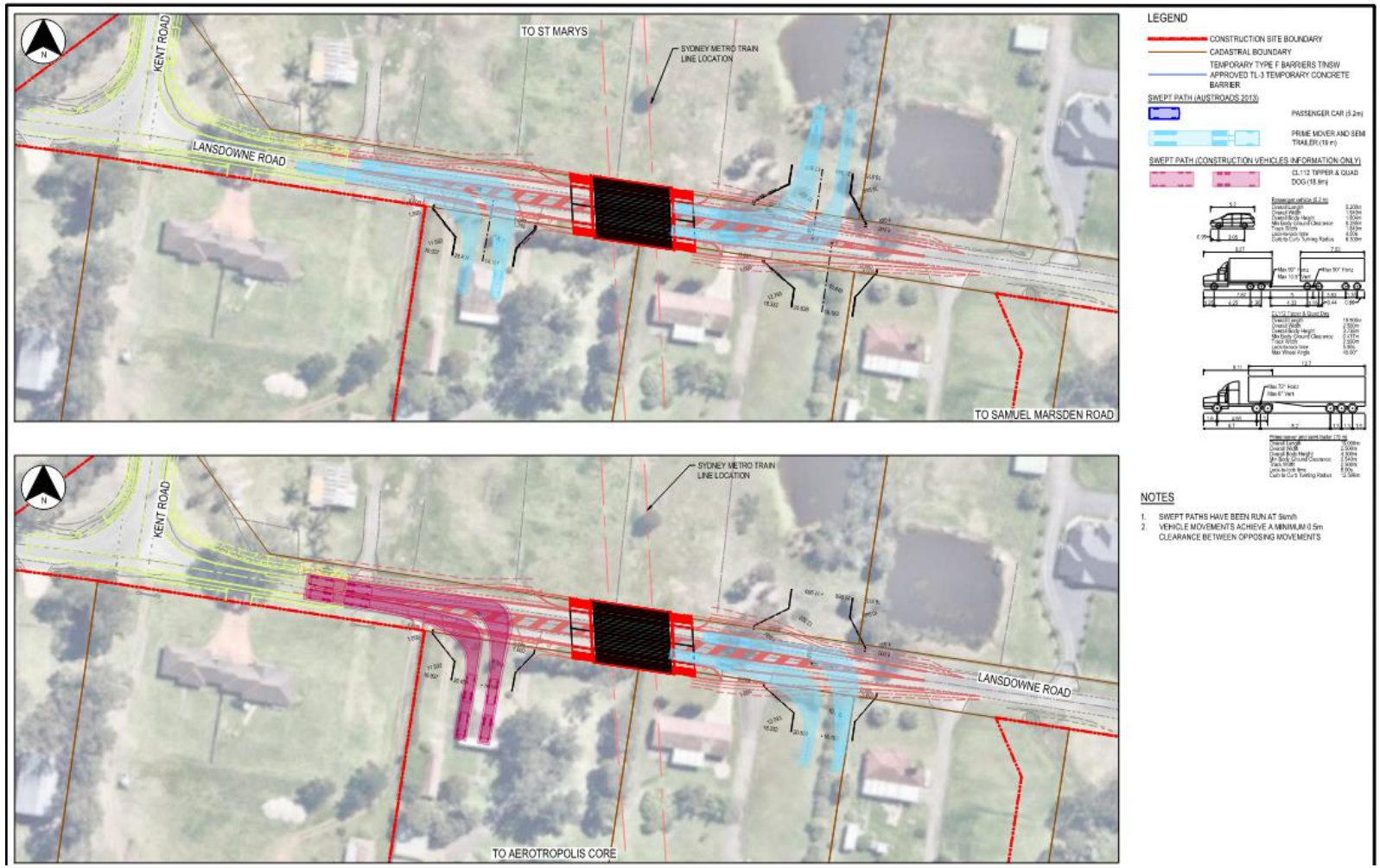


Figure 20: Swept path on Lansdowne Road bridge during traffic stage 3

6.5. Traffic control measures

All signage and line marking associated with the Lansdowne Road side-track in Traffic Stage 2 will be removed prior to the opening of the Lansdowne Road bridge.

Speed reduction zone, discussed in Section 3.5, will be retained during the course of Traffic Stage 3. Roadwork speed of 40km/h will be applied along the site frontage, ensuring safe traffic and pedestrian movements past the work site.

6.6. Traffic and Transport impact

6.6.1. Impact on traffic flow

All traffic will be switched from the temporary side track to the permanent new road bridge on Lansdowne Road. There will be no impact on traffic flows in this two-way two-lane road.

The 40km/h roadwork speed limits will be maintained in Traffic Stage 3.

Given the traffic switch associated with Stage 3 occurs before the peak construction activities (currently expected from March 2023 onwards) of the project, construction traffic volume that will occur during this stage will not exceed the construction traffic generation as shown in Table 2. On this basis, traffic impact on the road network will be no worse than the EIS intersection performance as shown in Table 5.

Site induction and regular toolbox talks of site-specific traffic risks will also be undertaken by CPG JV construction workers and drivers to ensure the maximum safety of road users travelling in the near vicinity of the site.

6.6.2. Impact on public transport

There will be no impacts on public transport from the construction works as there are no public transport services running along the site frontage on Lansdowne Road and Kent Road (south of M4 Motorway). There are a number of school services that travel along Kent Road and Lansdowne Road; however, the impact will be minimal as a result of this stage of works. As construction works will be contained within the site vicinity and the frontage roads, bus services to the north of M4 Motorway on Kent Road as well as bus services on Kingswood Road will not be impacted.

6.6.3. Impact on pedestrians

There are no designated pedestrian footpaths located on Lansdowne Road or Kent Road (south of M4 Motorway. Considering this and the locality of the area, pedestrian activities along the site frontage is considered minimal.

The shared pedestrian and cyclist path on Kent Road, located to the north of M4 Motorway off-ramp, will not be impacted by the project as construction works will be contained within the site frontage on Lansdowne Road and Kent Road (south of M4 Motorway).

In addition, site inductions and toolbox talks will also be in place to raise awareness of CPG JV construction workers and drivers about existing road conditions around the site.

6.6.4. Impact on cyclists

There are no designated cycle routes along Lansdowne Road or Kent Road (south of M4 Motorway) even though cyclists may share the traffic lane with vehicles. Considering this and the remote land uses of the surrounding area, cyclist activities are considered to be low and hence no construction impacts on cyclists will be minimal.

The shared pedestrian and cyclist path on Kent Road, located to the north of M4 Motorway off-ramp, will not be impacted by the project as construction works will be contained within the site frontage. While there is no direct impact of works proposed in this CTMP on the cycle paths in the vicinity of SBT site, CPG proposes to install decals on the shared path as shown in **Error! Reference source not found.** to provide warning to cyclists and pedestrians about increased heavy vehicle movements in the area.

6.6.5. Impact on property and utility access

There will be no impacts on the surrounding residents, properties or businesses. Accesses for all residents, properties and businesses will be maintained during all stages of the construction works proposed in this plan. Access for utility providers/ maintainers will also not be impacted.

6.7. Traffic Guidance Scheme/ Road Occupancy License identified works

The 40km/h road works speed limit will be maintained on Lansdowne Road and Kent Road along the site frontage during traffic stage 3.

Truck warning signage (W5-22) will be retained or relocated accordingly to the site access and egress locations on Kent Road and Lansdowne Road.

TGS has been developed to show the required traffic control measures to manage temporary works to guide road users past the site areas safely, which is shown in **Error! Reference source not found.**.

6.8. Required Council approvals

Works that have been identified as requiring Council approval includes the delivery of OSOM plant/equipment. OSOM deliveries during this stage may include cranes and segment deliveries to the TBM site. CPG envisages 75 OSOM movements in this stage of works. The permit and approval for these deliveries will be applied through NHVR's OSOM permit portal. All requirements from road authorities and NSW Police will be managed as required under the OSOM permit process.

CPG JV will apply for required Council Permits for this stage of works. This section of Lansdowne Road is within an area licenced to Sydney Metro as defined in the Penrith City Council Interface Agreement and as such, implementation of this stage does not require endorsement by Council's Local Traffic Committee for construction stage of works.

Refer to section 7.3 for OSOM permit approval process.

7. Fleet management

Trucks to be used for the delivery of the project will be compliant with NSW legislation and standards including Heavy Vehicle National Legislation (HVNL). All heavy vehicle operations will be conducted in accordance with the CPG JV Chain of Responsibility (CoR) Management Plan and the Principal Contractors Safety Standard, as noted in the Project Wide CTMP.

A combination of truck types will be used during the project works including single unit trucks, semi-trailers, truck and dog combinations and b-doubles, as discussed in Section 3.2.

The location of all heavy vehicles used for spoil haulage will be monitored in real time and these records of monitoring will be made available electronically to the Planning Secretary and the Environmental Protection Authority (EPA) upon request for a period of no less than one (1) year following the completion of construction.

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

7.1. Haulage routes

The haulage routes will be via arterial roads, freeways or tollways. The routes included in the EIS have been adopted for this site. All deliveries will access Orchard Hills site using M4 Motorway before accessing Kent Road and Lansdowne Road. No other local roads will be used to minimise the impacts on the local road network unless they have been approved to be used as part of the haulage routes.

Figure 21 shows the EIS proposed haulage routes for Orchard Hills site while Figure 22 shows the breakdown of haulage routes for different traffic stages of Orchard Hills site. Detailed Vehicle Management Plans for each stage of works have also been included in **Error! Reference source not found.**.

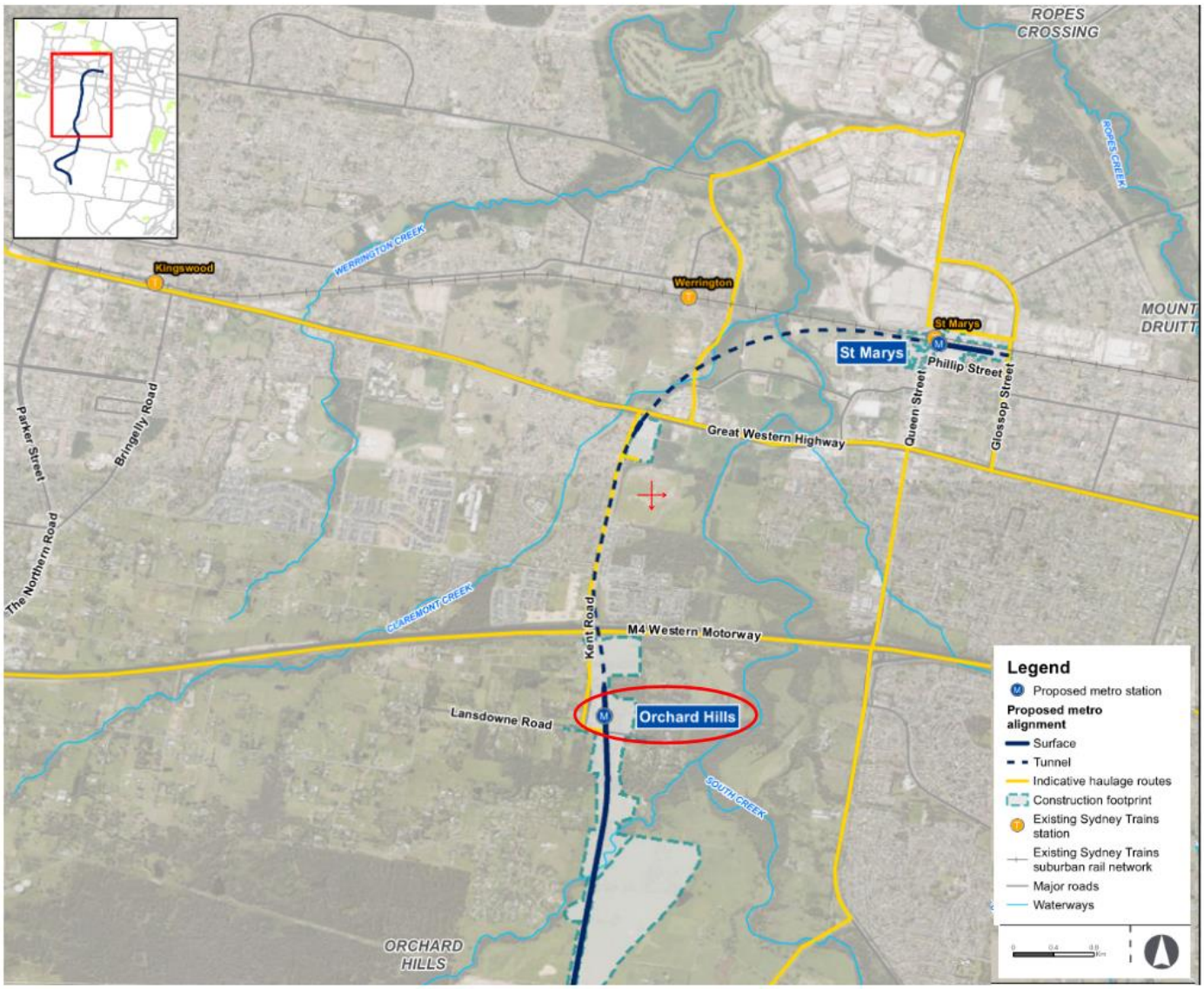


Figure 21: EIS Haulage Route for Orchard Hills site

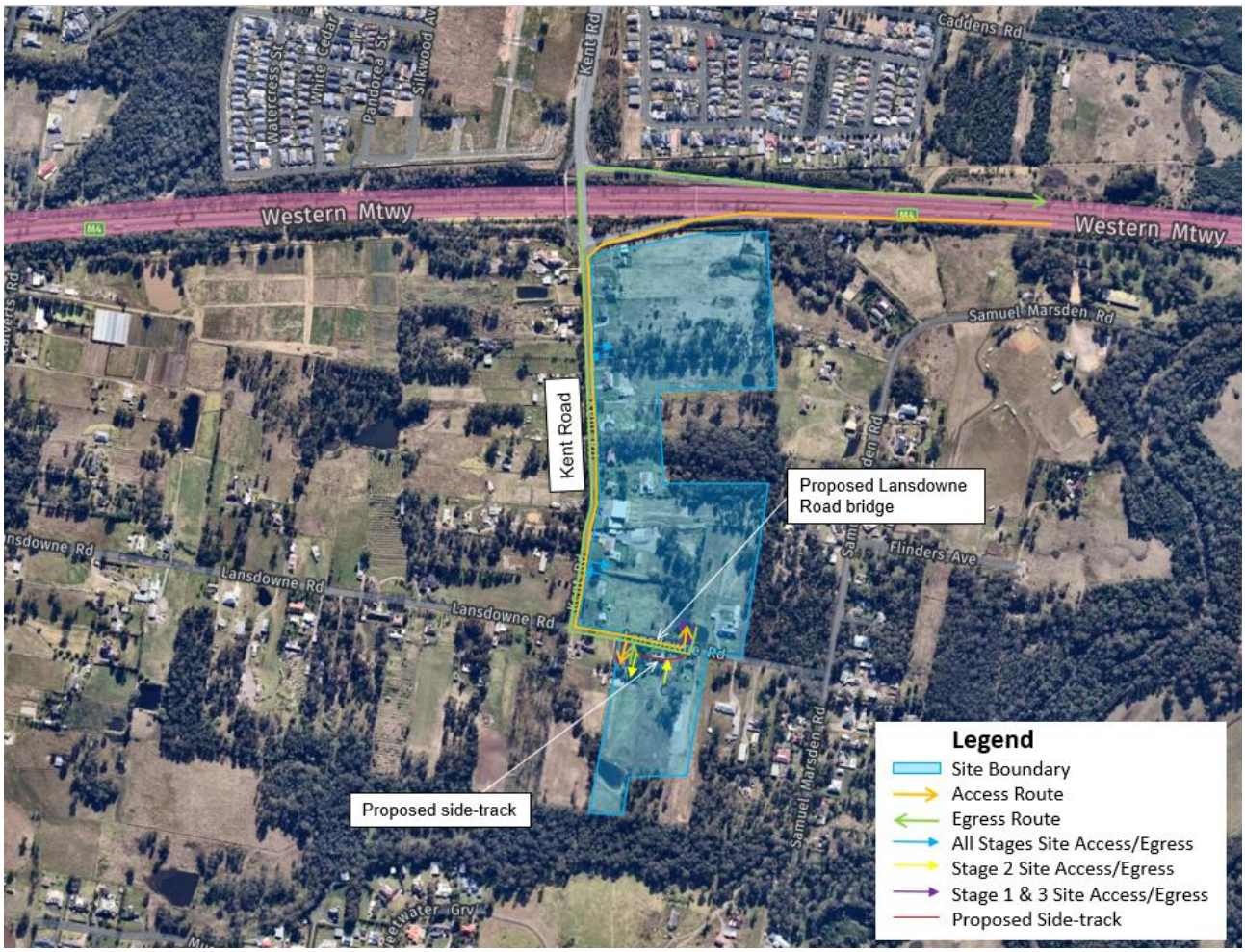


Figure 22: Proposed haulage routes for different traffic stages

7.1.1. Spoil haulage

The two TBMs for the St Marys to Orchard Hills tunnel will be launched from Orchard Hills site and travel northbound toward St Marys, which will then be disassembled there upon the completion of the tunnelling. Figure 23 shows the indicative strategy for the tunnelling between St Marys and Orchard Hills site.

Tunnelling spoil will be primarily removed from the Orchard Hills site. CPG JV will move the spoil from the tunnelling activities from both on-airport and off-airport sites (including Orchard Hills site) would be placed at the permanent soil placement area, which is located within the Western Sydney Airport construction support sites. This helps reduce the potential impacts of the associated movements on the public road network.

Figure 23: St Marys to Orchard Hills TBM Strategy (indicative purpose only)

7.1.2. TBM delivery

TBM components deliveries will be required to launch the tunnelling activities at Orchard Hills site. The deliveries will be coming from Port of Newcastle and will be using major arterial roads, such as M1 Pacific Motorway, M2 Hills Motorway, M4 Western Motorway before accessing the site frontage roads and site access along Kent Road.

The delivery of TBM components means OSOM movements on the road network. Relevant permits and approval for these deliveries will be applied through NHVR's OSOM permit portal. All requirements from road authorities and NSW Police will be managed as required under the OSOM permit process before the deliveries take place.

At this stage, date of deliveries for TBMs components for Orchard Hills Dive site are expected to commence in December 2022 and will continue till March 2023. All permits will be obtained prior to the start of the deliveries.

7.2. Road dilapidation report

Road dilapidation survey has been undertaken on Kent Road, Lansdowne Road and M4 westbound offramp as required under the interface agreements and submitted to the relevant road authorities.

7.3. Permits for Over Dimensional vehicles

OSOM permits for plant and equipment including TBM deliveries will be applied through NHVR's OSOM permit portal. All requirements including route assessments, approval from road authorities and NSW Police will be managed as required under the OSOM permit process. At this stage, date of deliveries for TBMs components for Orchard Hills are expected to commence in December 2022 and will continue till March 2023.

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

8. Other matters

8.1. Road safety audits

Road safety audits will be undertaken during the development and implementation of the CTMP. The audits will be undertaken as noted in the section 10 of the Construction Traffic Management Framework. A copy of the road safety audit is provided in **Error! Reference source not found.**

8.2. Communications and the community

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

8.2.1. Proposed communications

The proposed communication strategy is outlined in Table 6 below. CPG JV team will jointly distribute information pertaining to traffic related information. The notification and frequency will be dependent on the type/location/expected impact of the future changes. Typical proposed communications include community notice, precinct updates, email and internet updates, advertisement and advance warning signs.

Typical timelines for the various notifications are:

- 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 6: Proposed communications

Method	Purpose	Applicable to this CTMP
Community Notice	Details about the impacts of the construction of the surrounding road network, issued to key stakeholders and local community.	Yes
Precinct update/e-update	Details about any changes that have been introduced to the planning approvals	Yes
Letterbox notification	Letters to notify local residents and businesses likely to be impacted by the changes to road network and traffic conditions	Yes

Method	Purpose	Applicable to this CTMP
Internet	Details the impacts of the project works on the road network and traffic systems on the website	Yes
Print advertising	Details about the significant traffic management changes, detours and traffic disruptions	To be confirmed
Advance warning sign	Advance advisory signage warning approaching motorists of the changed traffic conditions caused by the projects including temporary VMS installed after long term speed reduction	Yes

8.2.2. Travelling public

Where the project works will impact on the travelling public, CPG JV will undertake the following communications:

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

However, it is noted that no major impact on public transport, active transport, footpath and bus stop closures is envisaged as a result of works covered by this CTMP.

8.3. Stakeholders

There are a number of stakeholders consulted during the development of this CTMP. Table 7 provides an overview of the consultation undertaken for this CTMP.

Table 7: Consultation undertaken

Stakeholder	Consultation type	Date
Traffic Control Group	Presentation	26 May 2022
Customer Journey Planning	Submission of CTMP	12 August 2022
Sydney Metro project team	Submission of CTMP	12 August 2022
Penrith City Council	Submission of CTMP	12 August 2022
Sydney Metro project team	Meeting to close out comments	30 August 2022
Penrith City Council	Meeting to close out comments	31 August 2022
Programs and Planning	Meeting to close out comments	31 August 2022
Traffic Control Group	Presentation	25 May 2022

Stakeholder	Consultation type	Date
Customer Journey Planning	Resubmission of CTMP	2 September 2022
Sydney Metro project team	Resubmission of CTMP	2 September 2022
Penrith City Council	Resubmission of CTMP	2 September 2022

8.3.1. Traffic and Transport Liaison Group

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

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

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

The Traffic Manager organise and chair all TTLG meetings on a monthly basis during the duration of the project. The Traffic Manager acts as the authorised representative of the project, while consistently provide any updates related to the project works to other fellow TTLG members during the meeting.

8.3.2. Traffic Control Group

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

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

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

8.4. Special events

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

- NSW and Sydney Events - Destination NSW

- NSW Events and Festivals - Visit NSW and
- Upcoming Events - Penrith City Council events
- Western Sydney Parklands - Public Events
- Sydney International Shooting Centre - Public Events

CPG JV is aware of the ongoing regular baseball practice of Colyton St Clair Chiefs Baseball Club, who will be holding competition at Samuel Marsden Reserve sports facility every Saturday and trainings every evening between August 2022 to April 2023. Considering the close proximity of the reserve to the Orchard Hills site vicinity, CPG's community team will continue liaising with the Club in addition to other business/residents in the area to ensure minimal impact of the construction works in the area.

8.5. Training

CPG JV will ensure that all personnel, including sub-contractors are aware of the specific requirements of TfNSW customers, general public, residents and businesses, prior to attending site through the induction process and regular updates through tool-box talks, inspections and monitoring. Site specific inductions will also highlight key traffic risks including pedestrian and cyclist interaction points at site access points and controls in place to manage them.

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

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

Checklists for monitoring of the implemented CTMP are provided in **Error! Reference source not found.**.

8.6. Environmental maintenance

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

8.7. Site contacts

Table 8 provides the contact details for the works identified in this CTMP.

Table 8: Site contacts

Name	Position	Contact details
Luis Alonso	Construction Manager	0429 665 907
Abdallah E Sayed	Senior Project Manager	0419 217 308
Toufic Najarin	Senior Project Engineer	0401 629 942
Abdullah Khan	Traffic Manager	0439 508 193

8.8. References

The following documents were used in the development of this CTMP:

- Construction Traffic Management Framework Sydney Metro West and Sydney Metro Western Sydney Airport Construction
- EIS Chapter 8: Project Description – Construction
- EIS Chapter 24: Cumulative Impacts
- EIS Technical Paper 1: Transport
- TfNSW Traffic Control at Worksites Manual v6.1 (2022)
- Relevant Austroads Guides and TfNSW Supplements
- Sydney Metro Principal Contractor Health and Safety Standards
- Australian Standard 1742 Part 3 – Traffic Control for works on roads

Appendix 1 Local Area Works Design (for information only as design has been completed and approved for construction by TfNSW)

Drawing #	Description
Combined Drawings	General arrangement plans for the Local Area Works

LANSDOWNE ROAD AND KENT ROAD INTERSECTION

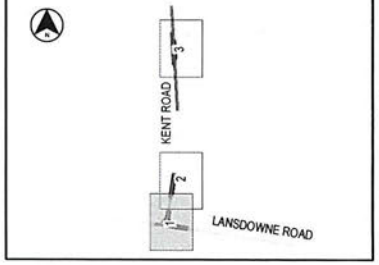
LEGEND

- EXISTING BOUNDARY / LOT PROPERTY
- TO BE RELOCATED
- TO BE DEMOLISHED OR REMOVED
- TREES TO BE REMOVED

NOTES

1. CONTRACTOR TO POSITIVELY IDENTIFY THE LOCATION OF ALL SERVICES PRIOR TO CONSTRUCTION ACTIVITIES
2. CONTRACTOR IS RESPONSIBLE FOR ALL EROSION AND SEDIMENTATION CONTROL MEASURES

KEYPLAN



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PLOT DATE / TIME: 17-Sep-21 / 3:08:56 PM	PLOT BY: WANGD11		
CLIENT: NSW GOVERNMENT Transport for NSW			
PREPARED FOR: GREATER SYDNEY DIVISION EASING SYDNEY'S CONGESTION SYDNEY METRO INTEGRATION			

PENRITH CITY COUNCIL
SYDNEY METRO WESTERN SYDNEY AIRPORT
CONSTRUCTION SITE ACCESSES AT KENT ROAD, ORCHARD HILLS
SITE CLEARING PLAN

A3

SHEET 1 OF 3

TINSW REGISTRATION No: DS2021/000117			PART: 1
ISSUE STATUS: DETAILED DESIGN	EDMS No.: -	SHEET No.: SHT-SC-001001	ISSUE: A

Appendix 2 Lansdowne Road Side Track Construction (Stage 2)

Drawing #	Description
Combined Drawings	General arrangement plans for the side track

SYDNEY METRO - WESTERN SYDNEY AIRPORT
STATION BOXES AND TUNNELLING WORKS

SYDNEY METRO - WESTERN SYDNEY AIRPORT
STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
ROAD WORKS

SBTLW0324

LANSDOWNE ROAD LOCAL AREA WORKS

DRAWING INDEX

DRAWING NUMBER	DRAWING TITLE
SMWSASBT-CPG-OHE-SN150-RW-DRG-032401	DRAWING INDEX
SMWSASBT-CPG-OHE-SN150-RW-DRG-032402	LOCALITY PLAN
SMWSASBT-CPG-OHE-SN150-RW-DRG-032403	GENERAL NOTES
SMWSASBT-CPG-OHE-SN150-RW-DRG-032412	GENERAL ARRANGEMENT PLAN - TEMPORARY DIVERSION
SMWSASBT-CPG-OHE-SN150-RW-DRG-032413	GENERAL ARRANGEMENT PLAN - LANSDOWNE ROAD DRIVEWAYS
SMWSASBT-CPG-OHE-SN150-RW-DRG-032421	LONGITUDINAL SECTION MC23
SMWSASBT-CPG-OHE-SN150-RW-DRG-032422	LONGITUDINAL SECTIONS - LANSDOWNE ROAD DRIVEWAYS
SMWSASBT-CPG-OHE-SN150-RW-DRG-032441	CROSS SECTIONS SHEET 1
SMWSASBT-CPG-OHE-SN150-RW-DRG-032442	CROSS SECTIONS SHEET 2
SMWSASBT-CPG-OHE-SN150-RW-DRG-032443	CROSS SECTIONS SHEET 3
SMWSASBT-CPG-OHE-SN150-RW-DRG-032491	TYPICAL CROSS SECTION
SMWSASBT-CPG-OHE-SN150-GL-DRG-032410	ALIGNMENT CONTROL PLAN - TEMPORARY DIVERSION
SMWSASBT-CPG-OHE-SN150-GL-DRG-032411	ALIGNMENT CONTROL PLAN - LANSDOWNE ROAD DRIVEWAYS
SMWSASBT-CPG-OHE-SN150-GL-DRG-032412	ALIGNMENT CONTROL SETOUT TABLES
SMWSASBT-CPG-OHE-SN150-SD-DRG-032410	DRAINAGE PLAN
SMWSASBT-CPG-OHE-SN150-PV-DRG-032410	PAVEMENT PLAN - TEMPORARY DIVERSION
SMWSASBT-CPG-OHE-SN150-PV-DRG-032411	PAVEMENT PLAN - LANSDOWNE ROAD DRIVEWAYS
SMWSASBT-CPG-OHE-SN150-TF-DRG-032410	SIGNAGE AND LINEMAKRING PLAN
SMWSASBT-CPG-OHE-SN150-TF-DRG-032412	SWEPT PATH PLAN - TEMPORARY DIVERSION
SMWSASBT-CPG-OHE-SN150-TF-DRG-032413	SWEPT PATH PLAN - LANSDOWNE ROAD DRIVEWAYS
SMWSASBT-CPG-OHE-SN150-TW-DRG-032423	SITE FENCING DESIGN

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

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DESIGN CHECK [redacted]
APPROVED [redacted]

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
ROADWORKS
DRAWING INDEX

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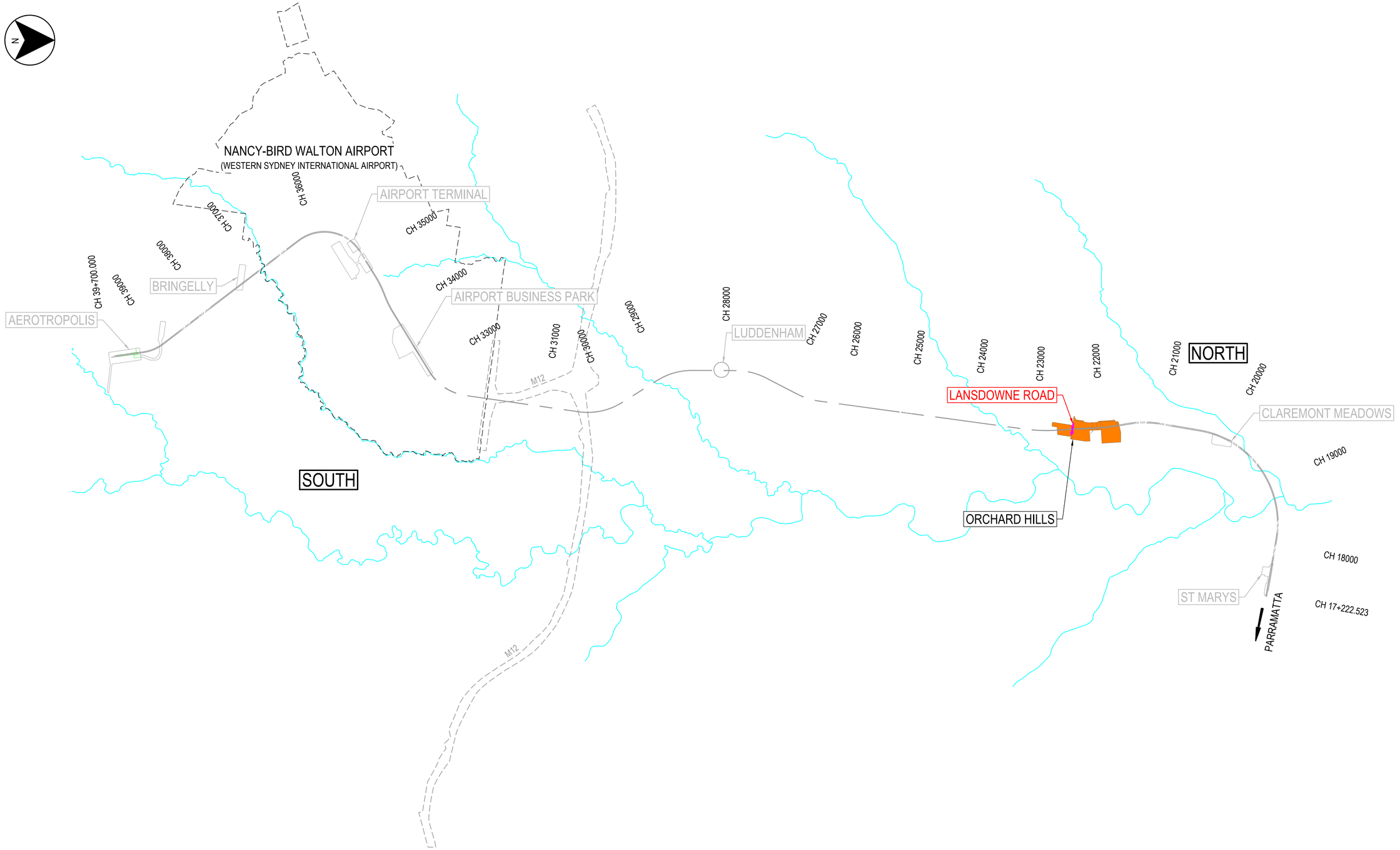
Transport for NSW

SYDNEY METRO - WESTERN SYDNEY AIRPORT
STATION BOXES AND TUNNELLING WORKS



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DESIGNED	[redacted]	08.07.2022
DRG CHECK	[redacted]	
DESIGN CHECK	[redacted]	08.07.2022
APPROVED	[redacted]	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
ROADWORKS
LOCALITY PLAN

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
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100mm AT FULL SIZE

File Path: C:\adms\dms388105\SMWSASBT-CPG-OHE-SN150-RW-DRG-032402.dwg

GENERAL NOTES

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE TfNSW SPECIFICATION FOR THE WORKS TOGETHER WITH THE REQUIREMENTS OF ALL RELEVANT CODES OR PRACTICE REFERRED TO THEREIN AND THE REQUIREMENTS OF ALL STATUTORY AUTHORITIES WHERE APPLICABLE.
2. DRAWINGS TO BE READ IN CONJUNCTION WITH ALL OTHER SPECIFICATIONS FOR THE PROJECT.
3. LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD).
4. CO-ORDINATES ARE TO MAP GRID AUSTRALIA (MGA) CO-ORDINATE SYSTEM (ZONE 56).
5. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE (UNO). ALL LEVELS, CHAINAGES, STATIONS AND CO-ORDINATES ARE EXPRESSED IN METRES.
6. WHERE REFERENCE IS MADE TO PROPRIETARY COMPONENT NAMES ON THE DRAWINGS THE CONTRACTOR MAY PROPOSE AN ALTERNATIVE PRODUCT PROVIDED THE ALTERNATIVE IS EQUIVALENT AND SATISFIES THE REQUIREMENTS OF THE SPECIFICATION AND IS APPROVED BY THE PRINCIPAL.
7. ACCESS TO PROPERTIES TO BE MADE AVAILABLE BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION.
8. ALL WORK TO BE UNDERTAKEN IN ACCORDANCE WITH THE LATEST VERSION OF TfNSW STANDARDS.
9. ALL PROPERTY WORKS WITHIN PROPERTY BOUNDARY SUBJECT TO AGREEMENT WITH PROPERTY OWNER AND THE PRINCIPAL.
10. DRAWING REFERENCES QUOTED ARE ONLY SHOWING THE LAST SIX DIGITS FOR SIMPLICITY.
11. ALL GRADING POINTS ARE RELATED TO FINISHED ROAD LEVEL. REFER TO TYPICAL CROSS-SECTIONS FOR STRING LABELLING CONVENTION (GE SERIES).
12. ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE COMMENCING ANY WORK. REFER DISCREPANCIES TO THE PRINCIPAL. DO NOT OBTAIN DIMENSIONS FROM SCALING. EXISTING SURFACE LEVELS ON THE DRAWINGS ARE INDICATIVE ONLY.

SIGNAGE AND LINE MARKING

1. DELINEATION PAVEMENT MARKINGS SHALL BE PROVIDED IN ACCORDANCE WITH RTA DELINEATION GUIDELINES, THE RELEVANT RMS/TfNSW TECHNICAL DIRECTIONS, COMPLIMENTARY GUIDELINES, RMS AUSTROADS AND AUSTRALIAN STANDARDS SUPPLEMENTS, AUSTRALIAN STANDARDS AS 1742 - "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PART 1 -15" AND RMS QA SPECIFICATIONS R141
2. TO ELIMINATE EXCESSIVE GLARE FROM THE SURFACE OF A SIGN IT IS TO BE TURNED APPROXIMATELY 5° AWAY FROM THE NORMAL TO THE HEADLIGHT BEAM / LINE OF SIGHT.
3. ALL SIGNAGE TO BE CLEAR OF ALL VEGETATION AND OBSTRUCTIONS.
4. ALL REGULATORY / WARNING SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH AS1742 AND TfNSW GUIDELINES MANUFACTURE, SUPPLY AND INSTALLATION OF SIGN POSTING MUST BE IN ACCORDANCE WITH QA SPECIFICATION R143.
5. THE LOCATION OF ALL EXISTING SIGNS TO BE CONFIRMED PRIOR TO COMMENCING WORK. ENSURE ADOPTED METHOD OF CONSTRUCTION WILL AVOID DAMAGE TO ALL SERVICES.
6. CONDITION ASSESSMENT TO BE UNDERTAKEN ON ALL EXISTING SIGN FACES TO BE RELOCATED PRIOR TO BEING REUSED IN ACCORDANCE WITH RELEVANT SPECIFICATIONS AND STANDARDS OR AS DIRECTED BY THE PRINCIPAL.
7. ALL EXISTING LINE MARKING EFFECTED BY THE STAGING WORKS AND NOT OTHERWISE CONFLICTING WITH NEW LINE MARKING IS TO BE REINSTATED.
8. ALL LINE MARKING TO BE THERMOPLASTIC IN ACCORDANCE WITH TfNSW SPECIFICATION R141.
9. FOR NOTES ON PAVEMENTS REFER TO TfNSW DELINEATION GUIDELINE SECTION 9.
10. FOR REMOVAL OF LINE MARKING REFER TO TfNSW DELINEATION GUIDELINE SECTION 14.
11. RAISED PAVEMENT MARKERS SHALL BE PLACED ON ALL LANE, EDGE AND BARRIER LINES. SPACING OF RAISED PAVEMENT MARKERS SHALL BE IN ACCORDANCE WITH TfNSW DELINEATION GUIDE AND TfNSW SPECIFICATION R142.
12. GUIDE POSTS SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON THE DRAWINGS. GUIDE POSTS SHALL BE WHITE AND FITTED WITH RETRO-REFLECTIVE DELINEATORS; AND SHALL COMPLY WITH THE REQUIREMENTS OF TfNSW DELINEATION SECTION 16.

DRAINAGE - GENERAL

1. DRAINAGE PIPES 375 DIA AND LARGER TO BE REINFORCED CONCRETE CLASS “4” APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS U.N.O.
2. PIPES LESS THAN 375 DIA SHALL BE SEWER GRADE UPVC WITH SOLVENT WELDED JOINTS.
3. PIPES SHALL HAVE HS3 TYPE INSTALLATION IN ACCORDANCE WITH AS3725, TfNSW STANDARD DRAWING R0240-1, T HR Cl 12110 ST AND T HR Cl 12111 SP U.N.O.
4. ALL DRAINAGE WORKS TO TfNSW QA SPECIFICATIONS R11 UNLESS SPECIFIED OTHERWISE.
5. THE TRENCH WALLS OR SURROUNDING EMBANKMENT AROUND THE PIPE IS TO BE REVIEWED BY THE GEOTECHNICAL SITE REPRESENTATIVE (GSR) TO CHECK DENSITY AND STIFFNESS IN COMPARISON TO ADJACENT COMPACTED FILL AS PER TO AS3725 FOR HS3 SUPPORT. IF HS3 SUPPORT CANNOT BE ACHIEVED, PIPE IS TO BE REDESIGNED.
6. CONNECTION BETWEEN PIPES AND STRUCTURES TO BE UNDERTAKEN IN ACCORDANCE WITH TfNSW STANDARD DRAWINGS R0200 SERIES AND TfNSW MODEL DRAWINGS U.N.O.
7. PIPES WITH GEOTEXTILE TO BE IN ACCORDANCE WITH TfNSW SPECIFICATION R63.
8. PIPE LENGTHS PROVIDED IN DRAINAGE LONG SECTIONS ARE CALCULATED FROM PIT REFERENCE POINT TO PIT REFERENCE POINT.
9. UNSUITABLE FOUNDING MATERIAL FOR PIPES AND STRUCTURES SHALL BE REMOVED OR IMPROVED IN ACCORDANCE WITH TfNSW QA SPECIFICATION R44.
10. EXISTING STORMWATER PIPE LOCATIONS AND INVERT LEVELS TO BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
11. GRATES AND COVERS SHALL CONFORM TO AS3996 AND AS1428.1 AT ALL TIMES DURING CONSTRUCTION OF THE STORMWATER PITS AND BE RATED AS CLASS D MINIMUM. ALL GRATES TO BE HINGED AND LOCKABLE.
12. ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO CPBG JV FOR FURTHER DIRECTIONS.
13. PITS DEEPER THAN 1.0m TO BE FITTED WITH GALVANISED STEP IRONS. REFER TO TfNSW STANDARD DRAWING R0220-45 FOR DETAILS.
14. GEOTEXTILES SHALL BE SOURCED AND PLACED IN ACCORDANCE WITH TfNSW QA SPECIFICATION R63.
15. TRENCH DRAINS TO BE CONSTRUCTED IN ACCORDANCE WITH TfNSW QA SPECIFICATION R33 AND MANUFACTURERS SPECIFICATIONS.
16. IF SUBGRADE MATERIAL IS DEEMED UNSUITABLE REFER TO TfNSW SPECIFICATION R44 FOR TREATMENT OPTIONS.
17. ALL SUBSURFACE DRAINAGE MUST COMPLY WITH TfNSW QA SPECIFICATIONS R33 (TRENCH DRAINS), R37 (INTRA-PAVEMENT DRAINS) AND R38 (EDGE DRAINS)

UTILITIES

1. EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED.
2. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR SERVICES. DO NOT ASSUME DEPTHS OR ALIGNMENTS OF CABLES OR PLANT AS THESE MAY VARY SIGNIFICANTLY. THE CONTRACTOR MUST ACCEPT ALL RESPONSIBILITY FOR DAMAGES TO EXISTING SERVICES AS SERVICE AUTHORITIES MAY SEEK COMPENSATION FOR DAMAGES CAUSED TO THEIR PROPERTY AND SUBSEQUENT LOSSES CAUSED.
3. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL OR RELOCATION (IF REQUIRED) TO RELEVANT AUTHORITIES GUIDELINES OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA OR AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE ENGINEER/CPBG JV.
4. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO SURROUNDING ALLOTMENTS. CONTRACTOR TO GAIN APPROVAL FROM THE RELEVANT AUTHORITIES FOR TIME OF INTERRUPTION.
5. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN SUPPLY TO EXISTING BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF ANY RELEVANT AUTHORITIES. ONCE DIVERSION IS COMPLETE AND COMMISSIONED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE RELEVANT AUTHORITY/SUPERINTENDENT.
6. ALL SERVICE COVERS AND GRATES AFFECTED BY THE WORKS SHALL BE ADJUSTED AS REQUIRED AND TO SUIT THE LEVELS OF THE NEW WORK TO ENSURE MINIMUM COVERS (TO RELEVANT SERVICE AUTHORITY GUIDELINES) ARE MAINTAINED. IF MINIMUM COVERS ARE NOT MAINTAINED THE CONTRACTOR IS TO LOWER OR PROTECT SERVICES TO THE SATISFACTION OF THE RELEVANT SERVICE AUTHORITY AND CPBG JV.
7. LEVEL AND LOCATION OF ALL UNDERGROUND UTILITY SERVICES TO BE CONFIRMED BY FIELD INSPECTION (BY CONTRACTOR) PRIOR TO COMMENCEMENT OF WORKS AND THE RELEVANT UTILITY PLANS OBTAINED BY DIALING PH 1100 OR FAX 1300 652 077 (DIAL BEFORE YOU DIG). CAUTION SHOULD BE EXERCISED WHEN WORKING IN THE VICINITY OF ALL UTILITY SERVICES.
8. ALL WORKS NEAR OR AROUND UNDERGROUND ELECTRICAL CABLES SHALL BE IN ACCORDANCE WITH AUSGRID NETWORK STANDARD NS156 AND NS130.
9. ADJUSTMENT/RELOCATION OF ANY EXISTING UTILITY WOULD BE SUBJECT TO THE PRIOR APPROVAL OF THE RELEVANT SERVICE PROVIDER.

PROPERTY WORKS CONSTRUCTION

1. MAKE GOOD ANY DISTURBANCE TO EXISTING LAWNS, NATURE STRIPS, TOP SOIL AND DRAWINGS. TURF AND RESHAPE ALL DISTURBED AREAS INCLUDING REPLACEMENT OF EXISTING SHRUBS, HEDGES ETC. AS SHOWN ON DRAWINGS AND AGREED WITH THE PROPERTY OWNER AND THE PRINCIPAL.
2. CLEAN UP AND REMOVE CONTRACTOR'S WASTE FROM THE SITE CAUSED DURING THE ADJUSTMENT WORK.
3. RELOCATE / REMOVE AND REPLACE EXISTING LETTERBOXS AS SHOWN ON THE DRAWING. PRINCIPAL TO CONFIRM EXACT INSTRUCTION WITH PROPERTY OWNER.
4. EXISTING PRIVATE PROPERTY SERVICE CONNECTIONS AND DRAINAGE ARE NOT INDICATED ON THESE DRAWINGS. THESE NEED TO BE LOCATED AND ADJUSTED AS REQUIRED. MAINTAIN EXISTING ALIGNMENT WHERE POSSIBLE.
5. ACCESS TO PROPERTIES TO BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION, OR AS OTHERWISE AGREED WITH THE PROPERTY OWNER AND THE PRINCIPAL.
6. THE CADASTRAL BOUNDARY IS SUBJECT TO CONFIRMATION ON SITE BY THE CONTRACTOR USING A REGISTERED LAND SURVEYOR.
7. EXISTING TREES LOCATED WITHIN THE ROAD RESERVE HAVE BEEN IDENTIFIED ON THE DRAWINGS FOR REMOVAL WHERE REQUIRED, WHERE REMOVAL OF ADDITIONAL UNIDENTIFIED TREES ARE REQUIRED TO CONSTRUCT THE PROPERTY WORKS, OBTAIN APPROVAL FROM THE PRINCIPAL BEFORE REMOVING ADDITIONAL TREES.
8. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH TfNSW SPECIFICATION R204.

EARTHWORKS

1. A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE PRESENT ON SITE DURING SITE ESTABLISHMENT AND CONSTRUCTION TO VERIFY FOUNDING CONDITIONS ARE SUITABLE.
2. STRIPPED FOUNDATION LEVEL SHALL BE SUBJECT TO PROOF ROLLING IN ACCORDANCE WITH TfNSW STANDARD T HR Cl 12110 ST. ANY AREAS SHOWING EXCESSIVE DEFLECTION SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL IN ACCORDANCE WITH TfNSW STANDARD T HR Cl 12110 ST AND T HR Cl 12111 SP.
3. CHANNELS ARE TO BE CONSTRUCTED WITH DIMENSIONS AND SETOUT POINTS AS PER THE CHANNEL SCHEDULE. ANY DEVIATIONS TO BE AGREED UPON BY THE DESIGNER AND RESPONSIBLE SITE ENGINEER.
4. ALL ON-SITE WATER CHANNELS TO DISCHARGE INTO THE SEDIMENTATION BASIN AND NO SPILLAGE TO OFF-SITE CHANNELS TO BE ENSURED.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ANY EXCAVATION IN A STABLE CONDITION.

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE:

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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DESIGNED		08.07.2022
DRG CHECK		08.07.2022
DESIGN CHECK		08.07.2022
APPROVED		08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS

LANSDOWNE ROAD TEMPORARY DIVERSION

ROADWORKS

GENERAL NOTES

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©

STATUS: APPROVED FOR CONSTRUCTION | EDMS No:

DRG No: SMWSASBT-CPG-OHE-SN150-RW-DRG-032403 | REV 00 | VER

CERTIFICATION

THE UNDERSIGNED HAS OBTAINED "PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN" CERTIFICATION.

CERTIFICATE NO: 0052042754
WAYNE JOHNSON

GENERAL NOTES:

1. TCAWS RECOMMENDS THE FOLLOWINGS FOR THE TAPER LENGTH REQUIRED FOR TRAFFIC CONTROL TAPER, LATERAL SHIFT TAPER, AND MERGE TAPER.

RECOMMENDED TAPER LENGTH			
EXISTING PERMANENT SPEED (KM/H)	TRAFFIC CONTROL TAPER	LATERAL SHIFT TAPER	MERGE TAPER
45 OR LESS	15	15	15
46 TO 55	15	15	30
56 TO 65	30	30	60
66 TO 75	N/A	70	115
76 TO 85	N/A	80	130
86 TO 95	N/A	90	145
96 TO 105	N/A	100	160
GREATER THAN 105	N/A	110	180

TRAFFIC MANAGEMENT NOTES:

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 REFLECTIVE OR DIAMOND GRADE.
5. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
6. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE TFNSW "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER6 (2020) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
7. THIS TRAFFIC CONTROL PLAN MUST BE SETUP BY A PERSON HOLDING AN "APPLY TRAFFIC CONTROL PLANS" (YELLOW TICKET) AND THE TFNSW TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
8. IT IS THE SITE FOREMAN'S RESPONSIBILITY TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
   - PEDESTRIAN ACCESS AROUND THE WORK AREA TO BE MAINTAINED AT ALL TIMES.
   - AT ALL TIMES UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
   - IF THERE IS NO DESIGNATED SITE FOREMAN, THE RESPONSIBILITY SHALL FALL ON THE CONTRACTOR OF WORKS
9. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009
10. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH THE SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS MADE TO SUIT SITE CONDITIONS.
11. ALL CONSTRUCTION VEHICLE ACTIVITY SHOULD BE MINIMISED, WHERE POSSIBLE, DURING PEAK PERIODS.
12. PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
13. ROAD WORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. VEHICLES ALREADY ON THE ROAD WILL HAVE A RIGHT OF WAY. AS SUCH EVERY VEHICLE LEAVING THE SITE MUST WAIT UNTIL A SUITABLE GAP IN TRAFFIC ALLOWS THEM TO EXIT UNDER THE DIRECTION OF QUALIFIED TRAFFIC AND PEDESTRIAN CONTROLLER.
15. PEDESTRIANS WILL ONLY BE HELD FOR SHORT TIME TO ALLOW TRUCKS TO ENTER AND EXIT FROM THE SITE. PEDESTRIANS HAVE THE RIGHT OF WAY ON THE FOOTPATH AND WILL NOT BE STOPPED IN ANTICIPATION.
16. ADJOINING PROPERTIES AND SIDE ROADS WILL NOT BE AFFECTED BY THE WORKS.

LEGEND

	SITE BOUNDARIES
	HEAVY VEHICLES & LIGHT VEHICLES SITE ACCESS / EGRESS
	LIGHT VEHICLES ONLY SITE ACCESS / EGRESS
	SIGN POST LOCATION
	TEMPORARY CONCRETE CARRIER WITH ANTI-GAWK FENCING
	SITE SECURITY FENCE
	DOUBLE BARRIER CENTRE LINE MARKING WITH RRPM

M4 MOTORWAY OFF-RAMP
KENT ROAD
LANSDOWNE ROAD
SAMUEL MARSDEN ROAD
EXISTING LIGHT VEHICLE DRIVEWAY
PRECAST CONCRETE SLOPED END BARRIER TERMINAL
PRECAST CONCRETE SLOPED END BARRIER TERMINAL
SIDE-TRACK TO BE USED BY ALL TRAFFIC
PROPOSED LANSDOWNE ROAD BRIDGE
LANSDOWNE ROAD CLOSED FOR GENERAL TRAFFIC - DETOUR VIA SIDE-TRACK
ROADWORK ON SIDE ROAD
ROADWORK ON SIDE ROAD
ROADWORK AHEAD
END ROADWORK
END ROADWORK
END ROADWORK
AHEAD
AHEAD
140 m ON LEFT
170 m ON LEFT
210 m ON RIGHT
140 m ON RIGHT
230 m ON LEFT

Date: 29 August 2022
Filename: 22075CAD002-220829-TGS.dwg

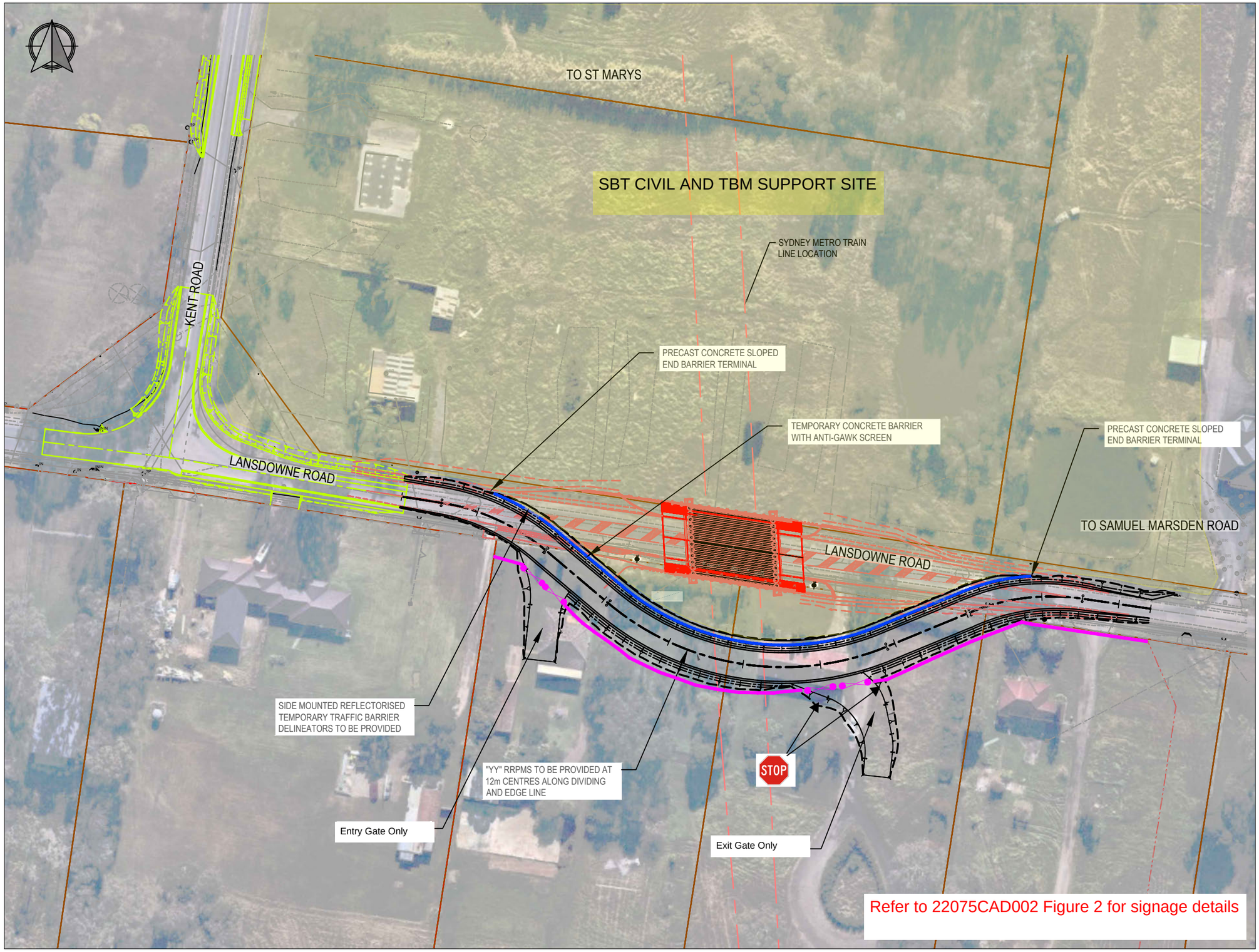
REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	SC	DL	WJ	29/08/22

ttpp transport planning

PROJECT
SYDNEY METRO WESTERN SYDNEY AIRPORT - ORCHARD HILLS SITE

TITLE
TRAFFIC STAGE 2 - TRAFFIC SWITCH TO SIDE-TRACK

DWG No. 22075CAD002 FIGURE 2
DATE STAMP 29 AUGUST 2022
PROJECT No. 22075
SCALE 1:4500 @A3
REV. B



LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - SURVEY
- SITE SECURITY FENCE
- ACCESS GATE
- TEMPORARY TYPE F BARRIER TINSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS

NOTES

1. REFER TO TRAFFIC MANAGE PLAN (TMP) FOR SIGNAGE SCHEDULE.
2. PROPOSED TEMPORARY SIGNAGE ON THIS PLAN IS INDICATIVE ONLY AND INFORMATION PRESENTED IN THE TMP TAKES PRECEDENCE.

FOR STAGE APPROVAL

REV	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
B	FOR AFC STAGE APPROVAL	TJ	MS	CL	08.07.22
A	STAGE 3 EXTERNAL ISSUE	TJ	MS	CL	29.04.22

SCALE: AS SHOWN

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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DESIGNED	08.07.2022
DRG CHECK	08.07.2022
DESIGN CHECK	08.07.2022
APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS

LANSDOWNE ROAD TEMPORARY DIVERSION

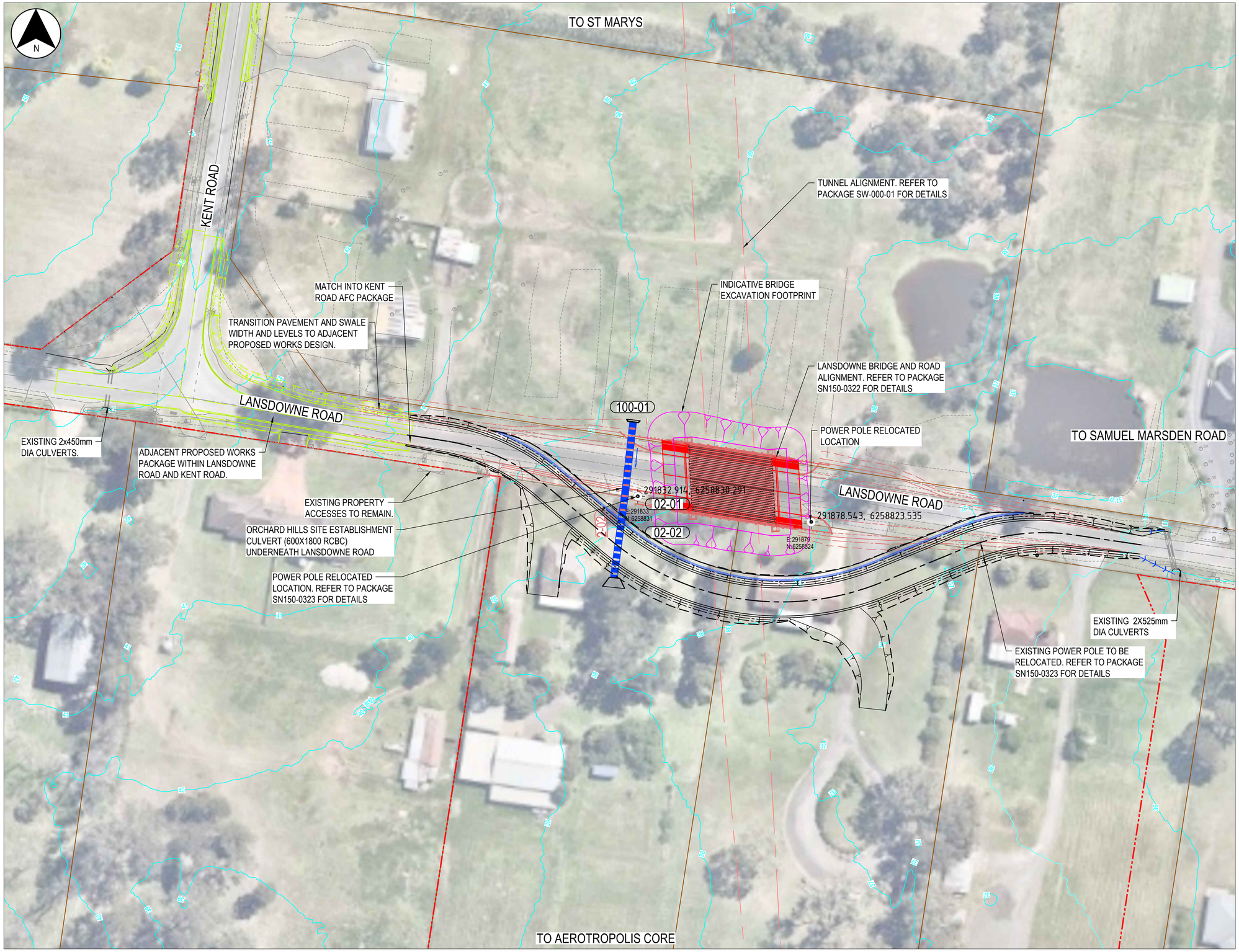
TRAFFIC MANAGEMENT

SIGNAGE AND LINEMARKING PLAN

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1

STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN | EDMS No:

DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032410 | REV B | VER



LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - LIDAR (24.0)
- EXISTING CONTOUR - SURVEY
- DESIGN CONTOUR - MAJOR (24.0)
- DESIGN CONTOUR - MINOR
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS

NOTES

1. FOR GENERAL NOTES REFER TO DRAWING SMWSASBT-CPG-OHE-SN150-MB-DRG-032403
2. FOR ORCHARD HILLS SITE ESTABLISHMENT DETAILS, REFER TO PACKAGE SN150-0318.
2. FOR ORCHARD HILLS PERMANENT PILES, EXCAVATION & SUPPORT DETAILS, REFER TO PACKAGE SN150-0320.
3. FOR LANSDOWNE ROAD BRIDGE PERMANENT WORKS, REFER TO PACKAGE SN150-0322.

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: 0.388888889

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APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
ROADWORKS
GENERAL ARRANGEMENT PLAN - TEMPORARY DIVERSION

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 2 OF 2 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-RW-DRG-032412 | REV 00 | VER

LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - LIDAR
- EXISTING CONTOUR - SURVEY
- DESIGN CONTOUR - MAJOR
- DESIGN CONTOUR - MINOR
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS

NOTES

1. FOR GENERAL NOTES REFER TO DRAWING SMWSASBT-CPG-OHE-SN150-MB-DRG-032403
2. FOR ORCHARD HILLS SITE ESTABLISHMENT DETAILS, REFER TO PACKAGE SN150-0318.
2. FOR ORCHARD HILLS PERMANENT PILES, EXCAVATION & SUPPORT DETAILS, REFER TO PACKAGE SN150-0320.
3. FOR LANSDOWNE ROAD BRIDGE PERMANENT WORKS, REFER TO PACKAGE SN150-0322.

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: 0.388888889

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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DESIGN CHEC		08.07.2022
APPROVED		08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
ROADWORKS
GENERAL ARRANGEMENT PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 2 OF 2 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-RW-DRG-032413 | REV 00 | VER

Plot Date: 15/08/2022 10:24:13 AM Cad File: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-RW-DRG-032413.dwg

100mm AT FULL SIZE

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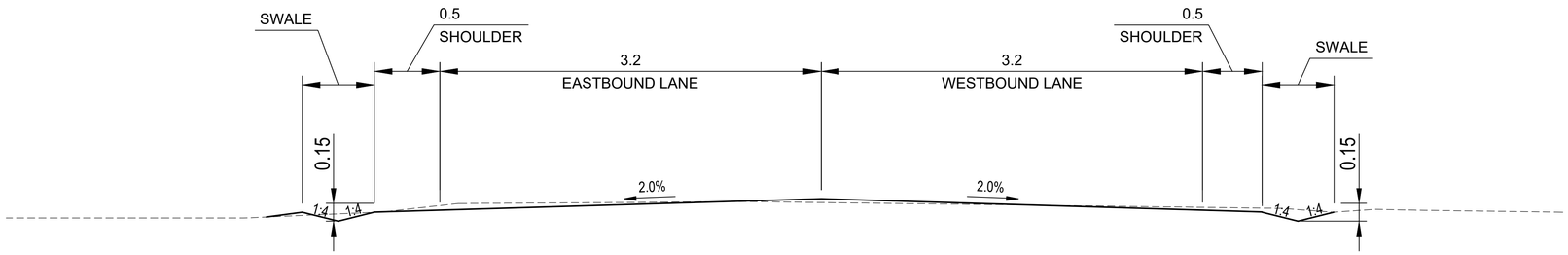
LEGEND

DESIGN SURFACE LEVELS

EXISTING SURFACE LEVELS

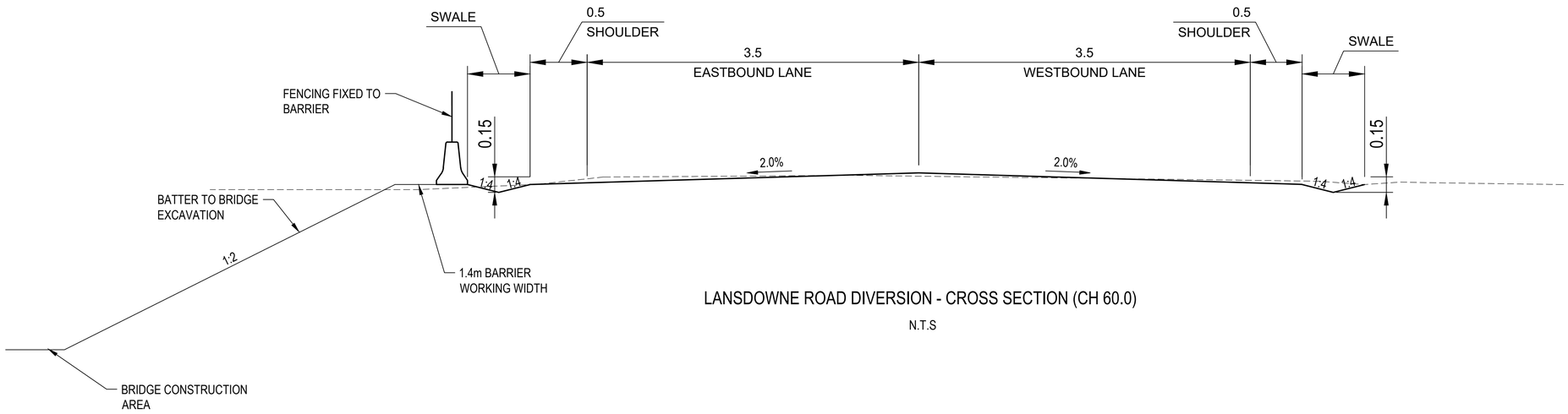
NOTES:

1. FOR GENERAL NOTES REFER TO DRAWINGS SMWSASBT-CPG-OHE-SN150-RW-DRG-032403.
2. FOR ROAD CROSS SECTIONS REFER TO DRAWINGS: SMWSASBT-CPG-OHE-SN150-RW-DRG-032441 - SMWSASBT-CPG-OHE-SN150-RW-DRG-032443.



LANSDOWNE ROAD DIVERSION - TYPICAL CROSS SECTION

N.T.S



LANSDOWNE ROAD DIVERSION - CROSS SECTION (CH 60.0)

N.T.S

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

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SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
ROADWORKS
TYPICAL CROSS SECTIONS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-RW-DRG-032491 | REV 00 | VER

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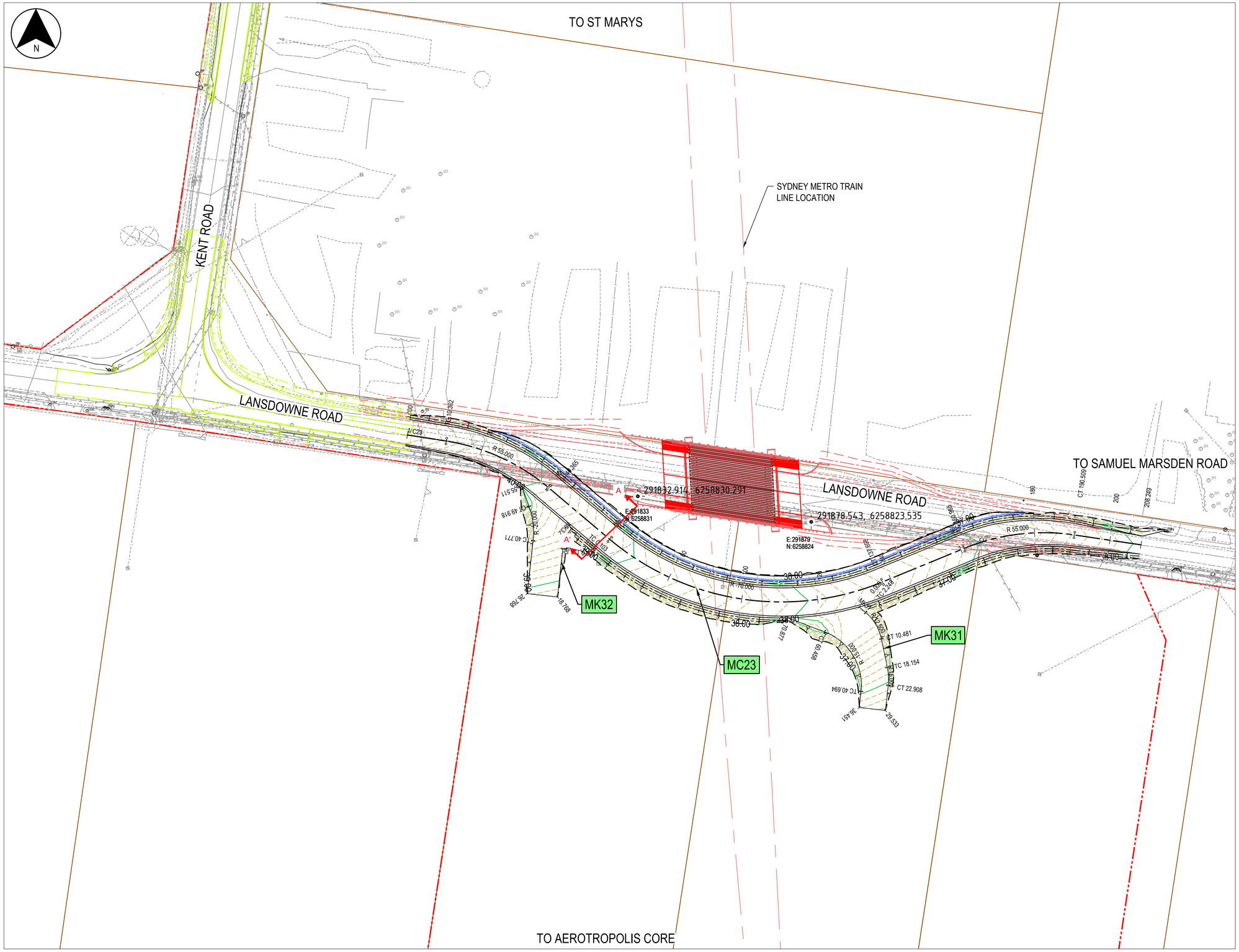

LEGEND

- ROAD / DRIVEWAY CONTROL LINE
- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - SURVEY
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS
- MXXX — ROAD / DRIVEWAY CONTROL LINE LABEL

NOTES

1. FOR ROAD CROSS SECTIONS REFER TO DRAWINGS: SMWSASBT-CPG-OHE-SN150-RW-DRG-032441 - SMWSASBT-CPG-OHE-SN150-RW-DRG-032443.
2. FOR ROAD LONG SECTION REFER TO DRAWING: SMWSASBT-CPG-OHE-SN150-RW-DRG-032421.

FOR CONSTRUCTION

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00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: AS SHOWN

1:500@A1 0 5 10 15 20 25 m

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied

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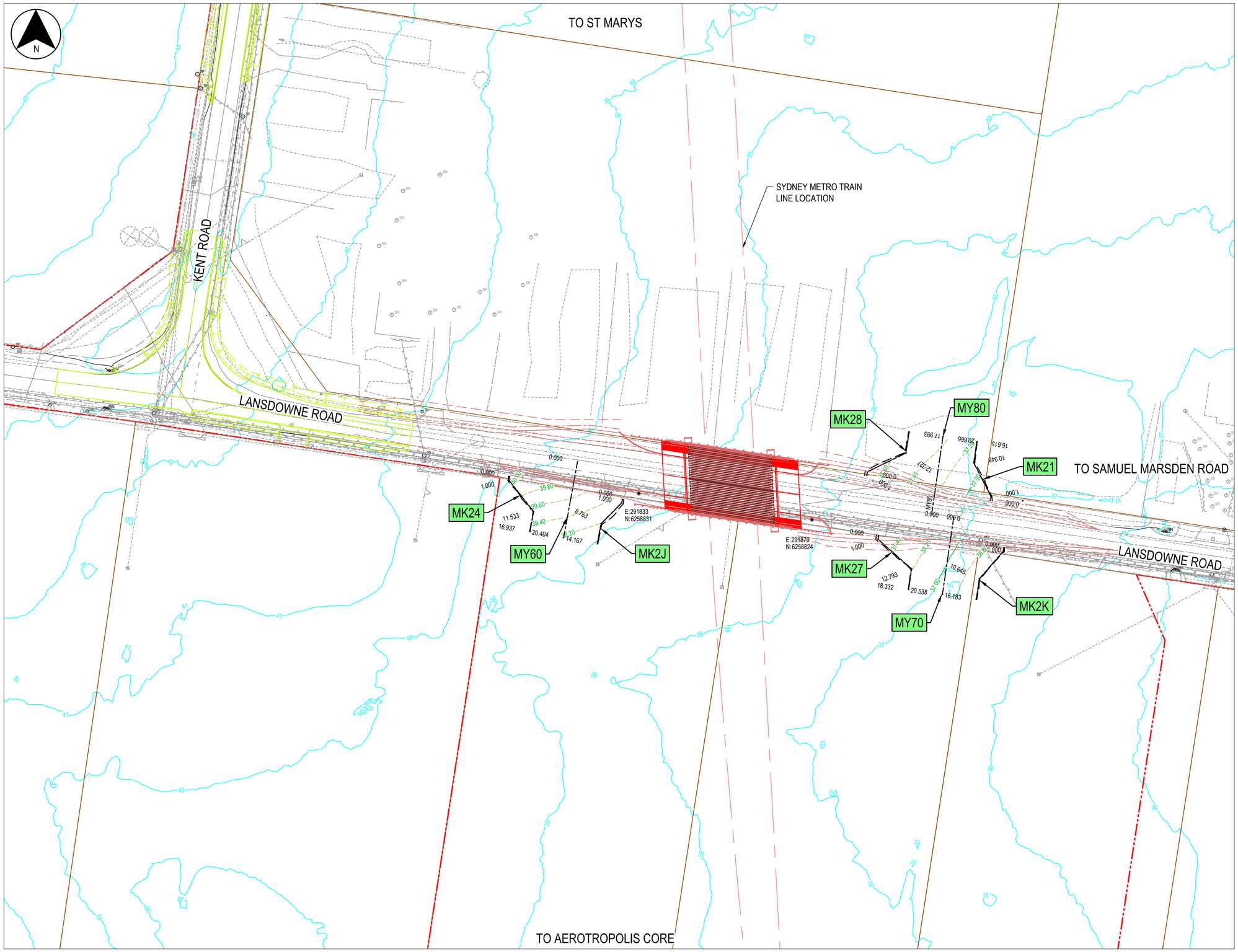
DRAWN	[redacted] 08.07.2022
DESIGNED	08.07.2022
DRG CHECK	08.07.2022
DESIGN CHEC	08.07.2022
APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
GENERAL ALIGNMENT
ALIGNMENT CONTROL PLAN - TEMPORARY DIVERSION

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-GL-DRG-032410 | REV 00 | VER



LEGEND

- ROAD / DRIVEWAY CONTROL LINE
- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - LIDAR
- EXISTING CONTOUR - SURVEY
- DESIGN CONTOUR - MAJOR
- DESIGN CONTOUR - MINOR
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS
- MXXX — ROAD / DRIVEWAY CONTROL LINE LABEL

NOTES

1. FOR PERMANENT DRIVEWAY LONG SECTIONS REFER TO DRAWING: SMWSASBT-CPG-OHE-SN150-RW-DRG-032422

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

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1:500 @A1 0 5 10 15 20 25 m

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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DESIGN CHEC	08.07.2022
APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
GENERAL ALIGNMENT
ALIGNMENT CONTROL PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-GL-DRG-032411 | REV 00 | VER

TEMPORARY DIVERSION

MC23 SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	RADIUS	A.LENGTH	DEFL.ANGLE
IP 1	0.000	291772.294	6258846.422	40.912			
IP 2	25.363	291797.730	6258842.433	40.330	55.000	30.003	31°15'20.58"
IP 3	99.514	291857.973	6258791.585	38.363	-70.000	76.369	62°30'33.33"
IP 4	175.737	291932.789	6258822.334	36.752	55.000	29.544	30°46'37.03"
IP 5	208.249	291965.312	6258817.512	35.949			

PERMANENT DRIVEWAY

MY60 SETOUT TABLE					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291817.183	6258839.498	39.834	190°20'06.30"
IP 2	20.404	291813.522	6258819.425	39.172	190°20'06.30"

MY70 SETOUT TABLE					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291916.231	6258824.781	37.157	188°19'27.08"
IP 2	20.538	291913.257	6258804.459	36.920	188°19'27.08"

MY80 SETOUT TABLE					
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291910.429	6258825.619	37.318	8°16'51.37"
IP 2	20.666	291913.405	6258846.070	37.447	8°16'51.37"

TEMPORARY DRIVEWAY

MK31 SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	RADIUS	A.LENGTH	DEFL.ANGLE
IP 1	0.000	291891.162	6258801.169	37.668			
IP 2	6.364	291896.124	6258796.940	37.710	12.500	8.234	37°44'22.97"
IP 3	20.531	291899.062	6258782.902	37.069	15.000	4.754	18°09'33.12"
IP 4	29.533	291898.065	6258773.935	36.661			
IP 5	36.451	291891.189	6258774.699	36.816			
IP 6	50.576	291892.941	6258790.457	37.548	-15.000	19.763	75°29'25.03"
IP 7	70.877	291872.352	6258798.299	38.028			

MK32 SETOUT TABLE							
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	RADIUS	A.LENGTH	DEFL.ANGLE
IP 1	0.000	291815.555	6258821.892	39.460			
IP 2	3.055	291813.527	6258819.490	39.515	-10.000	5.903	33°49'26.51"
IP 3	18.768	291811.782	6258803.785	38.805			
IP 4	26.768	291803.831	6258804.668	38.920			
IP 5	45.344	291805.892	6258823.212	39.845	-20.000	9.147	26°12'14.12"
IP 6	55.511	291802.410	6258832.850	40.003			

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: AS SHOWN

1:500 @A1 0 5 10 15 20 25 m

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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CPB CONTRACTORS | Ghella

DRAWN	08.07.2022
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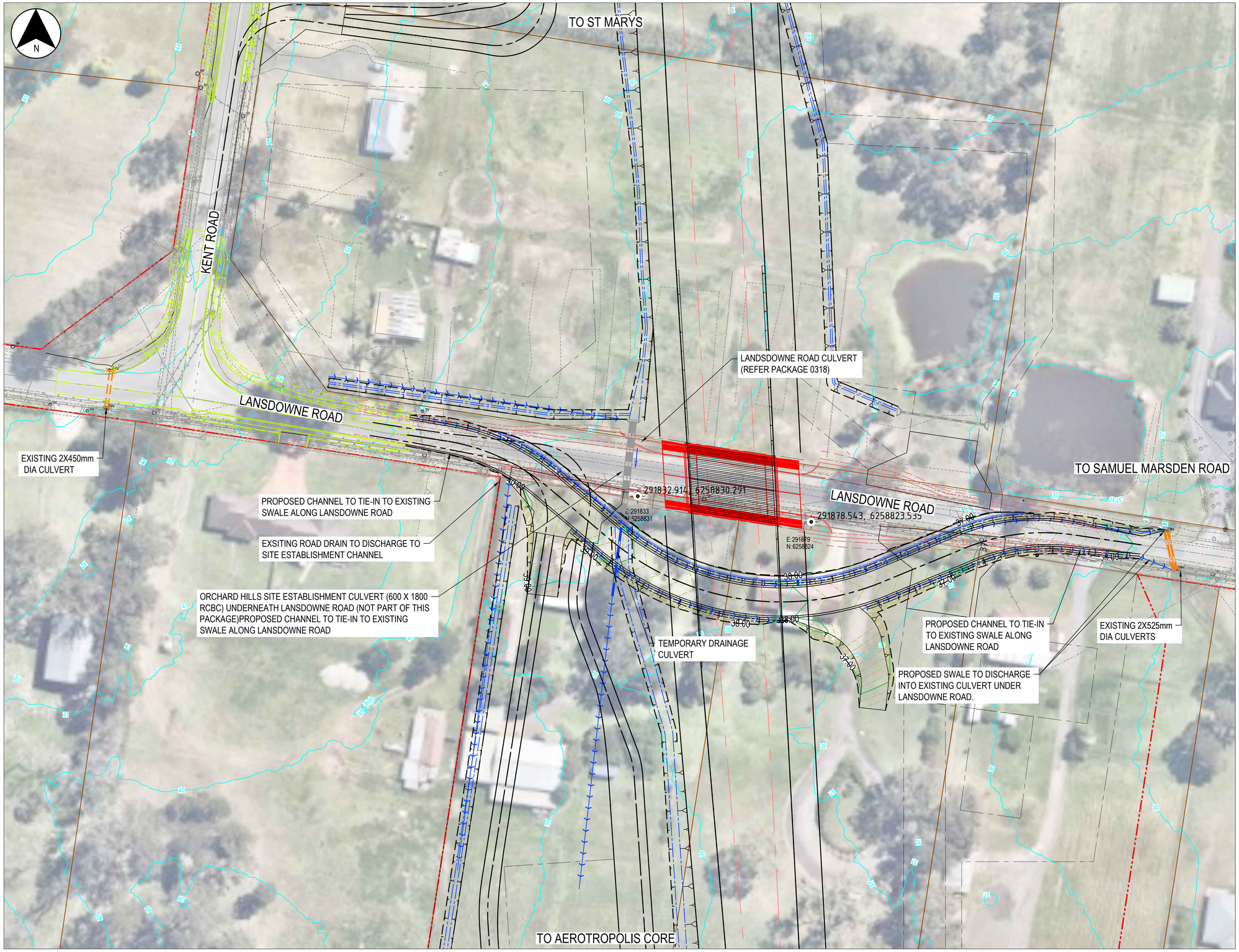
DRG CHECK	08.07.2022
DESIGN CHE	08.07.2022
APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
GENERAL ALIGNMENT
ALIGNMENT CONTROL SETOUT TABLES

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-GL-DRG-032412 | REV 00 | VER



LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - LIDAR
- EXISTING CONTOUR - SURVEY
- DESIGN CONTOUR - MAJOR
- DESIGN CONTOUR - MINOR
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS
- EXISTING STORMWATER PIPE
- EXISTING STORMWATER PIT
- NEW STORMWATER PIPE
- NEW STORMWATER PIT
- NEW SWALE DRAIN
- TEMPORARY DRAINAGE

NOTES

1. FOR DRAINAGE NOTES REFER TO GENERAL NOTES DRAWING: SMWSASBT-CPG-OHE-SN150-RW-DRG-032403.

FOR CONSTRUCTION

REV.	DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: AS SHOWN

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DRG CHECK		08.07.2022
DESIGN CHEC		08.07.2022
APPROVED		08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
STORMWATER DRAINAGE
DRAINAGE PLAN

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-SD-DRG-032410 | REV 00 | VER

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100mm AT FULL SIZE

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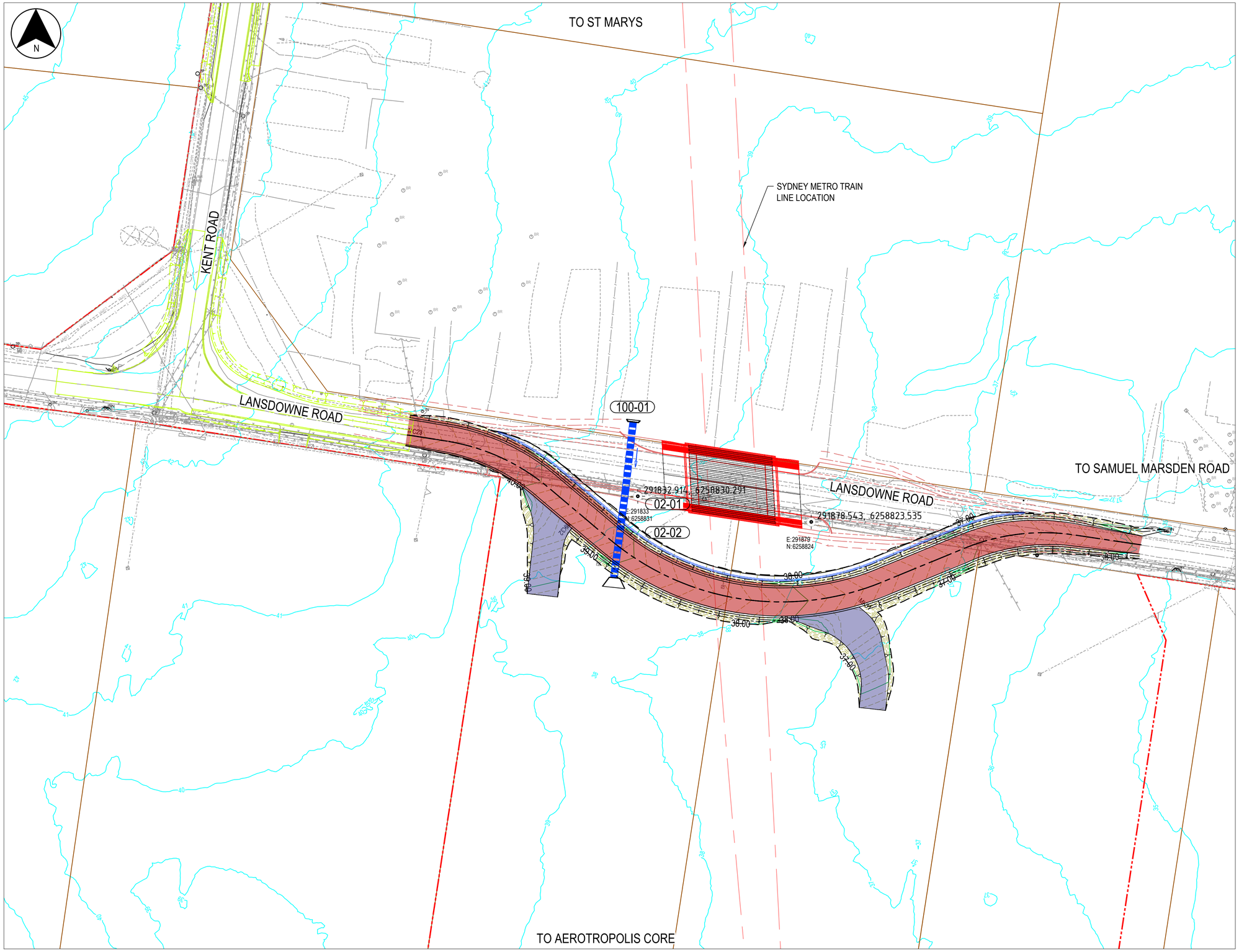
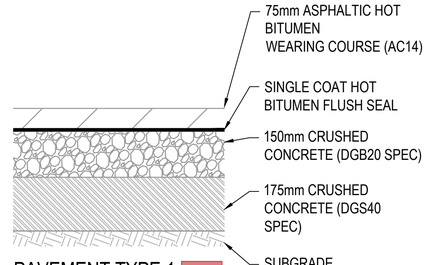


LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - LIDAR
- EXISTING CONTOUR - SURVEY
- DESIGN CONTOUR - MAJOR
- DESIGN CONTOUR - MINOR
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS
- PAVEMENT IN ACCORDANCE WITH PCC SD1005



PAVEMENT TYPE 1
FLEXIBLE PAVEMENT
SCALE 1:10

NOTES

1. DRIVEWAYS IN ACCORDANCE WITH PENRITH CITY COUNCIL DRIVEWAY STANDARD AND SPECIFICATIONS - INDUSTRIAL DRIVEWAY
2. FOR ROAD CROSS SECTIONS REFER TO DRAWINGS: SMWSASBT-CPG-OHE-SN150-RW-DRG-032441 - SMWSASBT-CPG-OHE-SN150-RW-DRG-032443
3. FOR ROAD LONGSECTION REFER TO DRAWING: SMWSASBT-CPG-OHE-SN150-RW-DRG-032421

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

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1:500@A1 0 5 10 15 20 25 m

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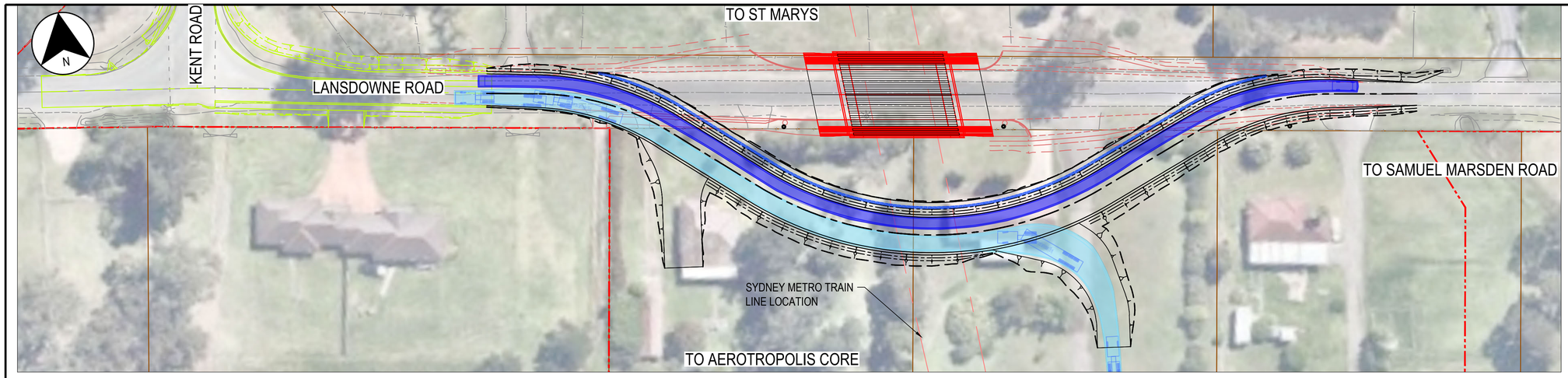
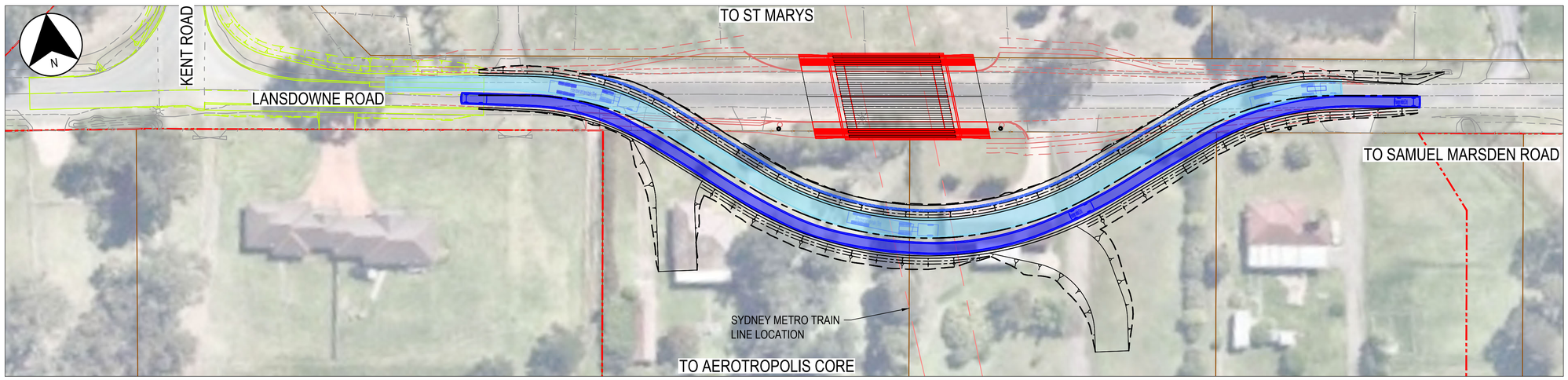
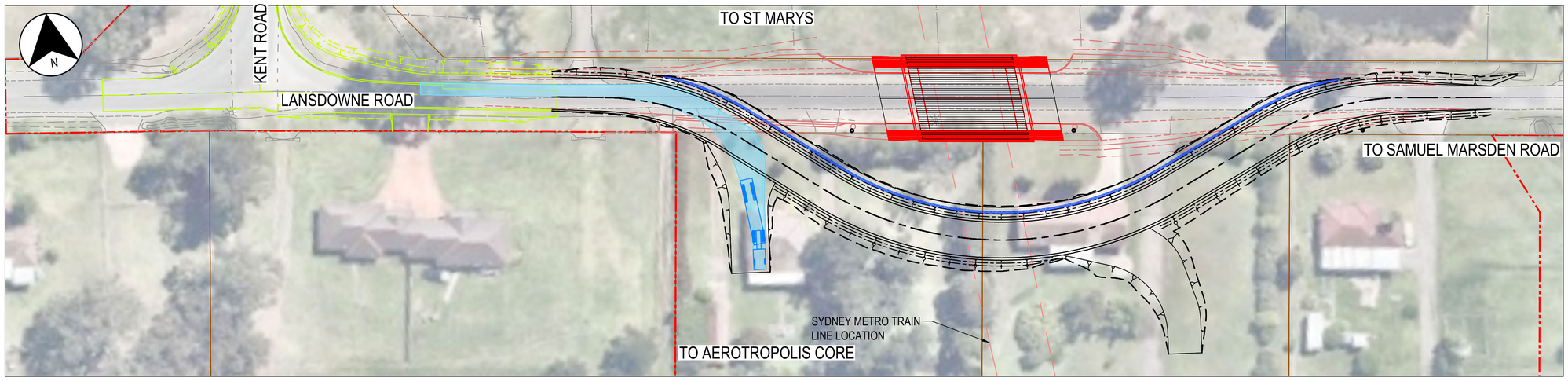
DESIGNED		08.07.2022
DRG CHECK		08.07.2022
DESIGN CHEC		08.07.2022
APPROVED		08.07.2022

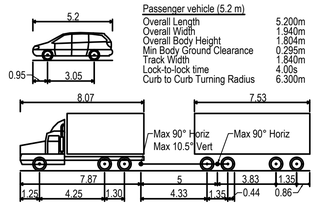
SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
PAVEMENT
PAVEMENT PLAN - TEMPORARY DIVERSION

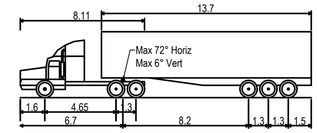
FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-PV-DRG-032410 | REV 00 | VER











LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TEMPORARY TYPE F BARRIERS TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER

SWEPT PATH (AUSTROADS 2013)

- PASSENGER CAR (5.2m)
- PRIME MOVER AND SEMI TRAILER (19 m)

SWEPT PATH (CONSTRUCTION VEHICLES INFORMATION ONLY)

- CL112 TIPPER & QUAD DOG (18.9m)

Passenger vehicle (5.2 m)	
Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.300m

CL112 Tipper & Quad Dog	
Overall Length	18.900m
Overall Width	2.500m
Overall Body Height	3.738m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

Prime mover and semi-trailer (19 m)	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

FOR CONSTRUCTION

00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22
REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date

SCALE: AS SHOWN

1:500@A1 0 5 10 15 20 25 m

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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NSW GOVERNMENT
sydney METRO
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SYDNEY METRO

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DESIGNED 08.07.2022
DRG CHECK 08.07.2022
DESIGN CHEC 08.07.2022
APPROVED 08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
TRAFFIC MANAGEMENT
SWEPT PATH PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032412 | REV 00 | VER

Plot Date: 15/08/2022 11:27:53 AM Cad File: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-TF-DRG-032412.dwg

100mm AT FULL SIZE

File Path: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-TF-DRG-032412.dwg

Appendix 3 Lansdowne Road Bridge Design (Stage 3)

Drawing #	Description
Combined Drawings	General arrangement plans for the reconfigured Lansdowne Road Bridge

CERTIFICATION

THE UNDERSIGNED HAS OBTAINED "PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN" CERTIFICATION.

CERTIFICATE NO: 0052042754
WAYNE JOHNSON

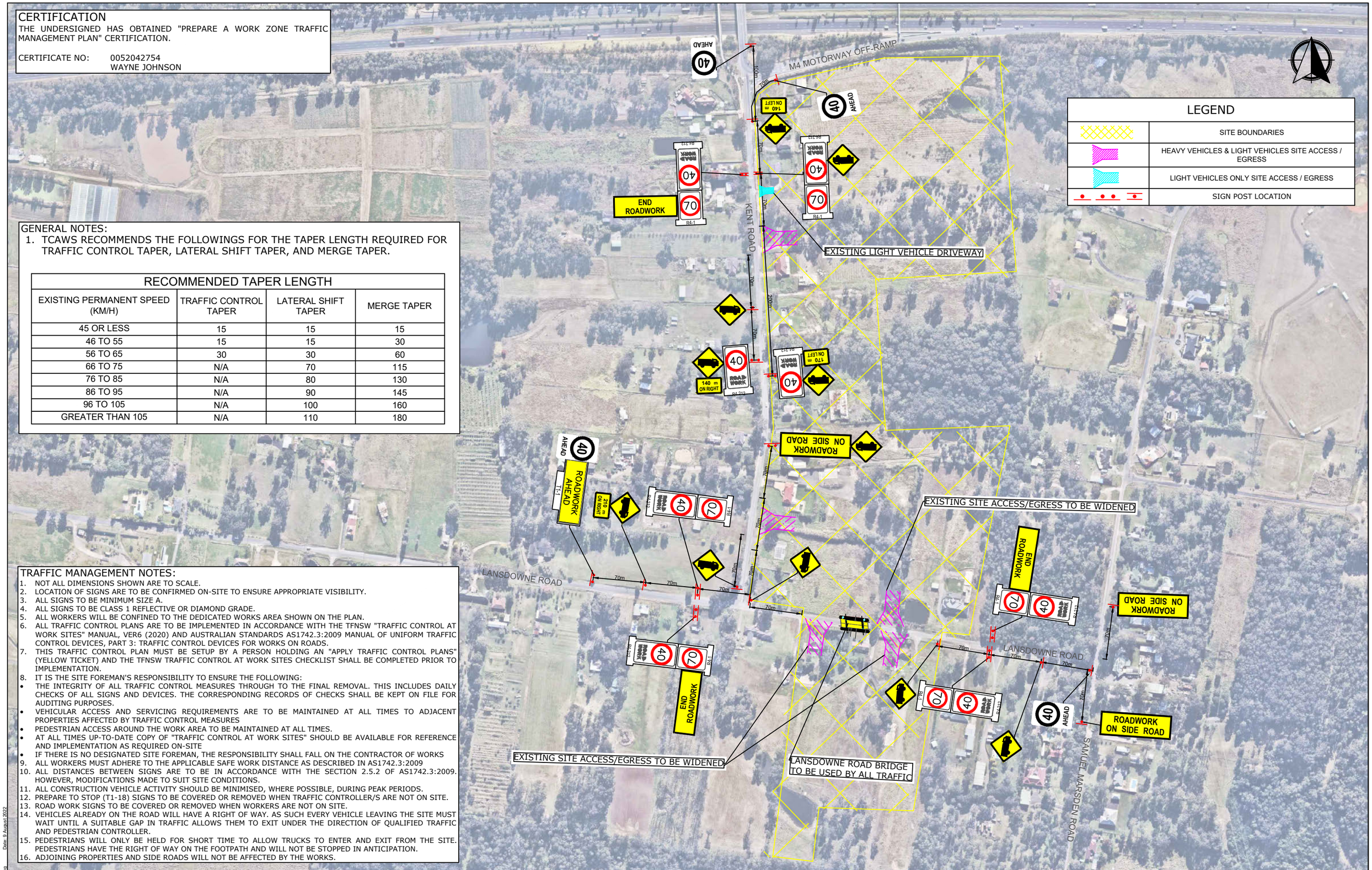
GENERAL NOTES:

1. TCAWS RECOMMENDS THE FOLLOWINGS FOR THE TAPER LENGTH REQUIRED FOR TRAFFIC CONTROL TAPER, LATERAL SHIFT TAPER, AND MERGE TAPER.

RECOMMENDED TAPER LENGTH			
EXISTING PERMANENT SPEED (KM/H)	TRAFFIC CONTROL TAPER	LATERAL SHIFT TAPER	MERGE TAPER
45 OR LESS	15	15	15
46 TO 55	15	15	30
56 TO 65	30	30	60
66 TO 75	N/A	70	115
76 TO 85	N/A	80	130
86 TO 95	N/A	90	145
96 TO 105	N/A	100	160
GREATER THAN 105	N/A	110	180

TRAFFIC MANAGEMENT NOTES:

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 REFLECTIVE OR DIAMOND GRADE.
5. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
6. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE TFNSW "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER6 (2020) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
7. THIS TRAFFIC CONTROL PLAN MUST BE SETUP BY A PERSON HOLDING AN "APPLY TRAFFIC CONTROL PLANS" (YELLOW TICKET) AND THE TFNSW TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
8. IT IS THE SITE FOREMAN'S RESPONSIBILITY TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
   - PEDESTRIAN ACCESS AROUND THE WORK AREA TO BE MAINTAINED AT ALL TIMES.
   - AT ALL TIMES UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
   - IF THERE IS NO DESIGNATED SITE FOREMAN, THE RESPONSIBILITY SHALL FALL ON THE CONTRACTOR OF WORKS
9. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009
10. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH THE SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS MADE TO SUIT SITE CONDITIONS.
11. ALL CONSTRUCTION VEHICLE ACTIVITY SHOULD BE MINIMISED, WHERE POSSIBLE, DURING PEAK PERIODS.
12. PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
13. ROAD WORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. VEHICLES ALREADY ON THE ROAD WILL HAVE A RIGHT OF WAY. AS SUCH EVERY VEHICLE LEAVING THE SITE MUST WAIT UNTIL A SUITABLE GAP IN TRAFFIC ALLOWS THEM TO EXIT UNDER THE DIRECTION OF QUALIFIED TRAFFIC AND PEDESTRIAN CONTROLLER.
15. PEDESTRIANS WILL ONLY BE HELD FOR SHORT TIME TO ALLOW TRUCKS TO ENTER AND EXIT FROM THE SITE. PEDESTRIANS HAVE THE RIGHT OF WAY ON THE FOOTPATH AND WILL NOT BE STOPPED IN ANTICIPATION.
16. ADJOINING PROPERTIES AND SIDE ROADS WILL NOT BE AFFECTED BY THE WORKS.



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION				09/08/22

ttpp transport planning

PROJECT: SYDNEY METRO WESTERN SYDNEY AIRPORT - ORCHARD HILLS SITE

TITLE: TRAFFIC STAGE 3 - TRAFFIC SWITCH TO PERMANENT LANSDOWNE ROAD BRIDGE

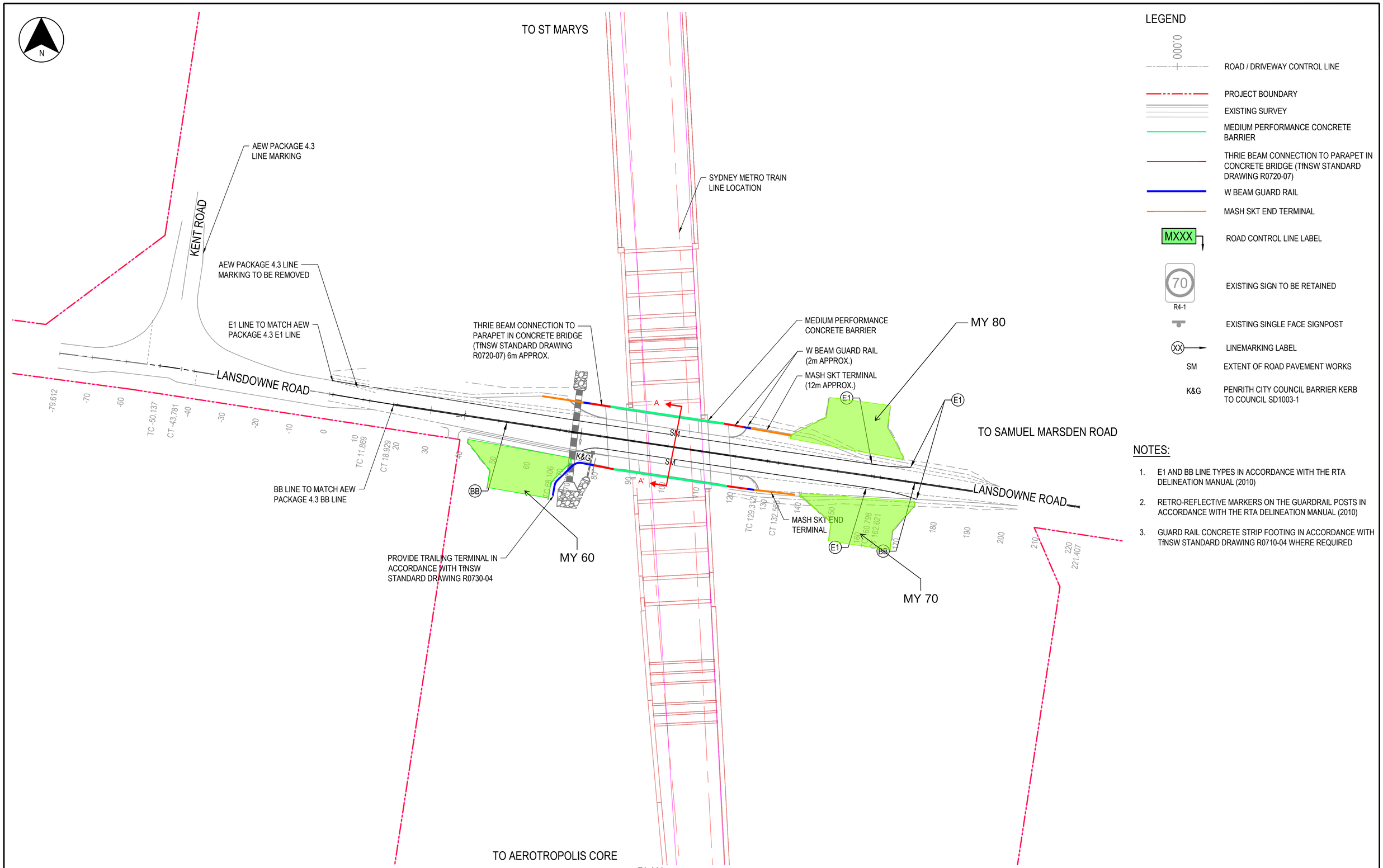
DWG No. 22075CAD002 FIGURE 3

DATE STAMP 09 AUGUST 2022

PROJECT No. 22075 | SCALE 1:4500 @A3 | REV. A

Date: 9 August 2022

Filename: 22075CAD002-220809-TGS.dwg



LEGEND

- 0'000 — ROAD / DRIVEWAY CONTROL LINE
- PROJECT BOUNDARY
- EXISTING SURVEY
- MEDIUM PERFORMANCE CONCRETE BARRIER
- THRIE BEAM CONNECTION TO PARAPET IN CONCRETE BRIDGE (TfNSW STANDARD DRAWING R0720-07)
- W BEAM GUARD RAIL
- MASH SKT END TERMINAL
- MXXX — ROAD CONTROL LINE LABEL
- 70 (R4-1) — EXISTING SIGN TO BE RETAINED
- EXISTING SINGLE FACE SIGNPOST
- XX — LINEMARKING LABEL
- SM — EXTENT OF ROAD PAVEMENT WORKS
- K&G — PENRITH CITY COUNCIL BARRIER KERB TO COUNCIL SD1003-1

NOTES:

1. E1 AND BB LINE TYPES IN ACCORDANCE WITH THE RTA DELINEATION MANUAL (2010)
2. RETRO-REFLECTIVE MARKERS ON THE GUARDRAIL POSTS IN ACCORDANCE WITH THE RTA DELINEATION MANUAL (2010)
3. GUARD RAIL CONCRETE STRIP FOOTING IN ACCORDANCE WITH TfNSW STANDARD DRAWING R0710-04 WHERE REQUIRED

PLAN
SCALE 1:500

FOR STAGE APPROVAL

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
B	FOR AFC STAGE APPROVAL				11.08.22
A	STAGE 3 EXTERNAL ISSUE				24.06.22

SCALE:
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1:500@A1 0 5 10 15 20 25 m

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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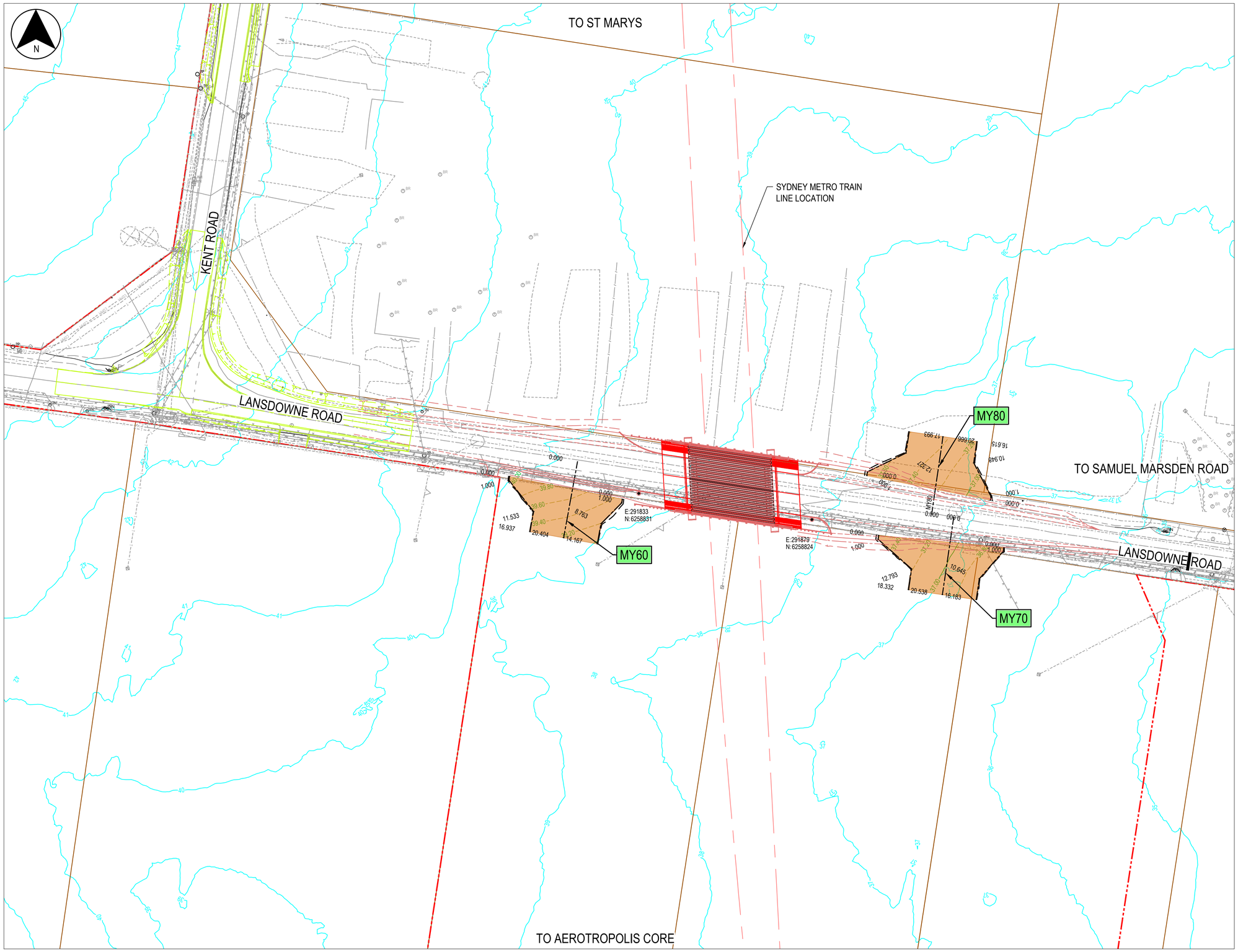
DRAWN	24.06.2022
DESIGNED	24.06.2022
DRG CHECK	24.06.2022
DESIGN CHECK	24.06.2022
APPROVED	22.06.2022

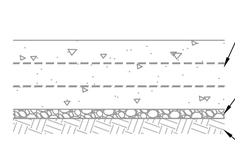
SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD BRIDGE
TRAFFIC MANAGEMENT
SIGNS AND LINEMARKING AND ROAD FURNITURE PLAN

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032201 | SHEET: 1 OF 1 | ©
STATUS: FOR STAGE APPROVAL | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032210 | REV B | VER



LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- 24.0 EXISTING CONTOUR - LIDAR
- EXISTING CONTOUR - SURVEY
- 24.0 DESIGN CONTOUR - MAJOR
- DESIGN CONTOUR - MINOR
- TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER
- KENT RD AFC PACKAGE (BY OTHERS)
- LANSDOWNE RD BRIDGE PERMANENT WORKS



PAVEMENT TYPE 2
FLEXIBLE PAVEMENT
SCALE 1:10

NOTES

1. DRIVEWAYS IN ACCORDANCE WITH PENRITH CITY COUNCIL DRIVEWAY STANDARD AND SPECIFICATIONS - INDUSTRIAL DRIVEWAY
2. FOR DRIVEWAY LONG SECTIONS REFER TO DRAWINGS: SMWSASBT-CPG-OHE-SN150-RW-DRG-0324422

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: AS SHOWN

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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DRAWN	08.07.2022
DESIGNED	08.07.2022
DRG CHECK	08.07.2022
DESIGN CHE	08.07.2022
APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
PAVEMENT
PAVEMENT PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: APPROVED FOR CONSTRUCTION | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-PV-DRG-032411 | REV 00 | VER

Plot Date: 15/08/2022 11:22:22 AM Cad File: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-PV-DRG-032411.dwg
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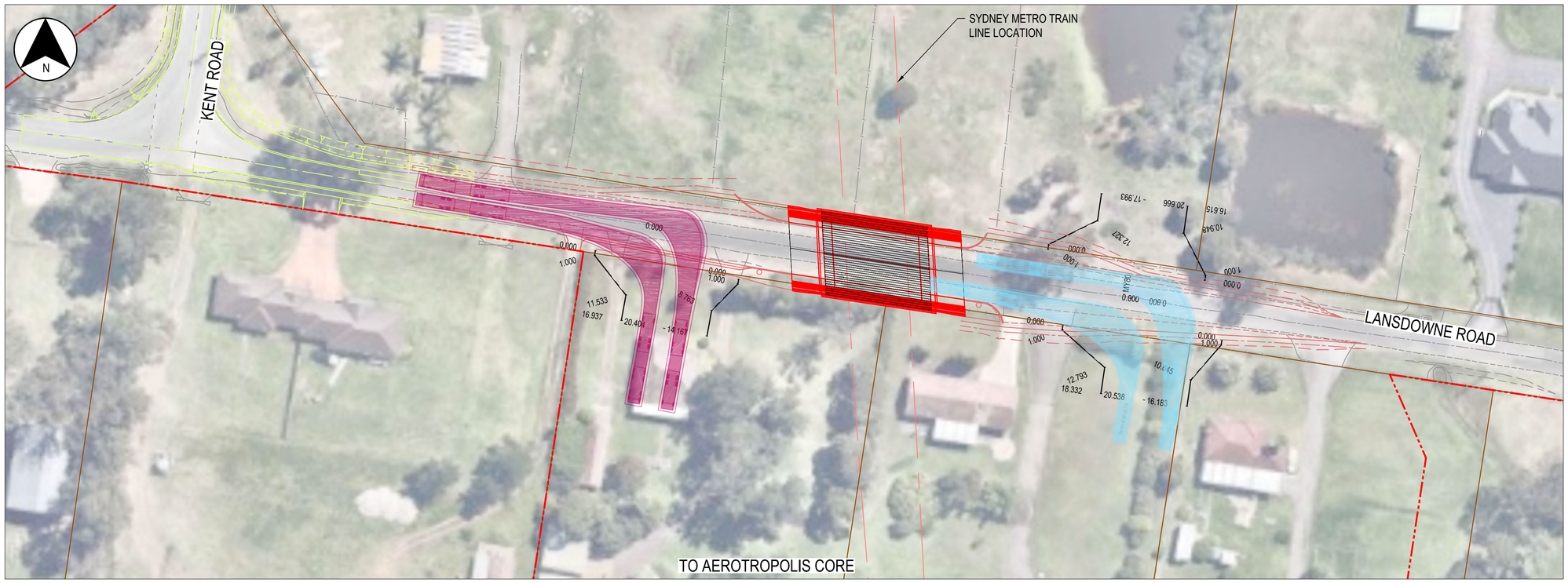


LEGEND

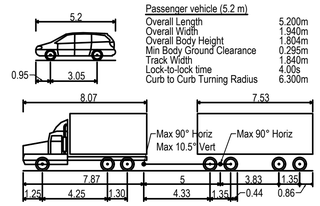
- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TEMPORARY TYPE F BARRIERS TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER

SWEPT PATH (AUSTROADS 2013)

- PASSENGER CAR (5.2m)
- PRIME MOVER AND SEMI TRAILER (19 m)

SWEPT PATH (CONSTRUCTION VEHICLES INFORMATION ONLY)

- CL112 TIPPER & QUAD DOG (18.9m)

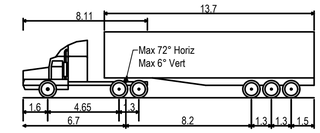


Passenger vehicle (5.2 m)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.300m

CL112 Tipper & Quad Dog

Overall Length	18.900m
Overall Width	2.500m
Overall Body Height	3.738m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°



Prime mover and semi-trailer (19 m)

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

NOTES

1. SWEPT PATHS HAVE BEEN RUN AT 5km/h
2. VEHICLE MOVEMENTS ACHIEVE A MINIMUM 0.5m CLEARANCE BETWEEN OPPOSING MOVEMENTS

FOR CONSTRUCTION

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
00	APPROVED FOR CONSTRUCTION	TJ	MS	CL	15.08.22

SCALE: AS SHOWN

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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DESIGNED	08.07.2022
DRG CHECK	08.07.2022
DESIGN CHE	08.07.2022
APPROVED	08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS

LANSDOWNE ROAD TEMPORARY DIVERSION

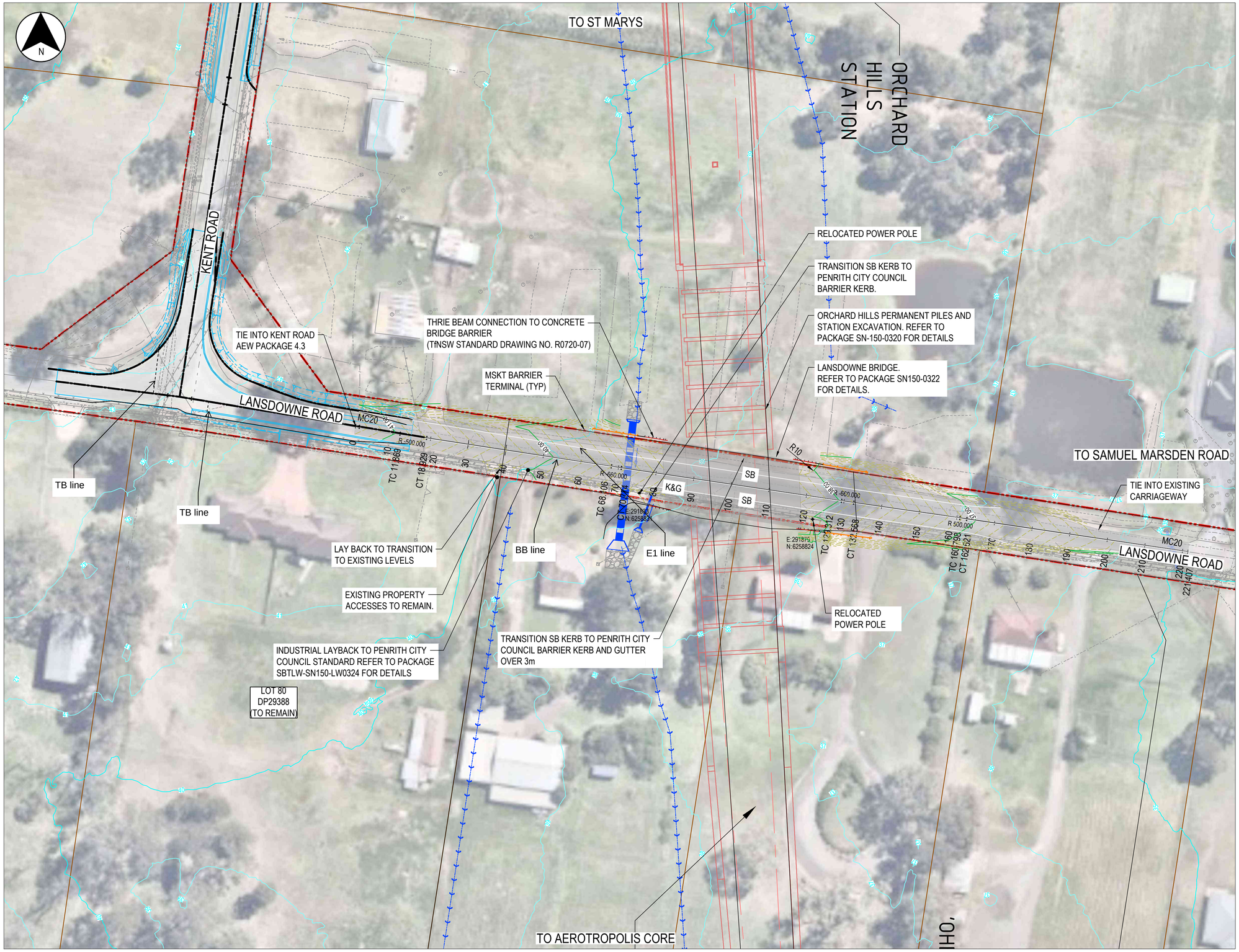
TRAFFIC MANAGEMENT

SWEPT PATH PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©

STATUS: APPROVED FOR CONSTRUCTION | EDMS No:

DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032413 | REV 00 | VER



LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TBM TUNNEL ALIGNMENT (BY OTHERS)
- EXISTING CONTOUR - MAJOR
- DESIGN CONTOUR - MAJOR
- DESIGN CONTOUR - MAJOR
- W BEAM GUARD BARRIER
- THRIE BEAM GUARD BARRIER
- ORCHARD HILLS METRO STATION BOX PACKAGE OHE-SN150-031901
- LANSDOWNE ROAD PERMANENT BRIDGE PACKAGE OHE-SN150-032201
- KENT ROAD AEW PACKAGE 4.3 (AFC)
- EXISTING SURVEY
- NEW STORMWATER PIPE
- NEW STORMWATER PIT
- NEW SWALE DRAIN
- NEW DRAINAGE HEADWALL
- EXTENT OF ROAD PAVEMENT WORKS

SB	EXTENT OF ROAD PAVEMENT WORKS
K&G	PENRITH CITY COUNCIL BARRIER KERB TO COUNCIL SD1003-1

NOTE

1. FOR UTILITIES, REFER TO PACKAGE SBTLW0323

FOR REVIEW AND COMMENT

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
A	STAGE 3 EXTERNAL ISSUE	TJ	MS	CL	24.06.22

SCALE: 1:500 @A1 (0 5 10 15 20 25 m)

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DRAWN	OLIVER SMITH	24.06.2022
DESIGNED	TIANA JARVIS	24.06.2022
DRG CHECK	COLIN BIBLE	24.06.2022
DESIGN CHECK	TREVOR WOODWARD	24.06.2022
APPROVED	CHRIS LAWTON	22.06.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD BRIDGE
ROADWORKS
GENERAL ARRANGEMENT PLAN

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032201 | SHEET: 1 OF 1 | ©
STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-RW-DRG-032210 | REV A | VER

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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GENERAL NOTES:

1. FOR GENERAL NOTES RELATING TO THIS SHEET, SEE SHEET No 032210.

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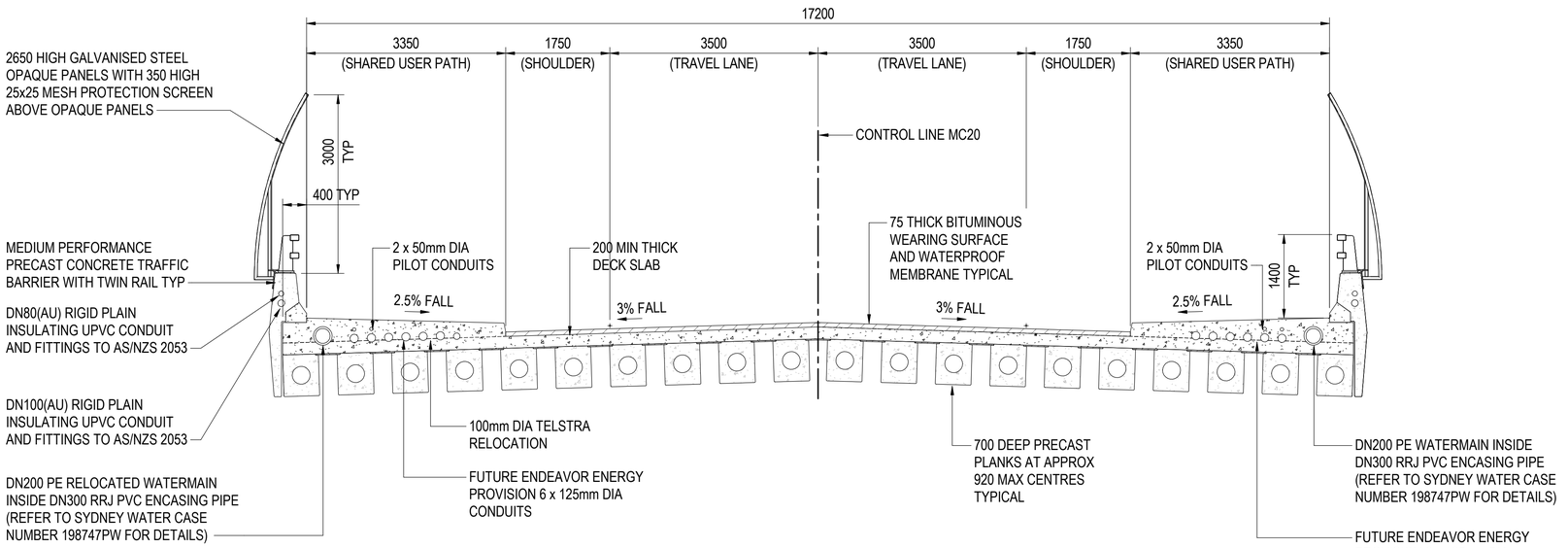
SOUTHERN SIDE



SECTION 1
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OFFICIAL

FOR CONSTRUCTION

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B	STAGE 3 DESIGN	[redacted]			24.06.22
A	STAGE 1 & 2 DESIGN	[redacted]			13.04.22

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: A.H.D | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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STRUCTURE

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DESIGNED		XX.XX.XXXX
DRG CHECK		XX.XX.XXXX
DESIGN CHE		XX.XX.XXXX
APPROVED		XX.XX.XXXX

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
ORCHARD HILLS STATION
BRIDGE STRUCTURES

GENERAL ARRANGEMENT - SHEET 2 OF 3

FILE No: SMWSASBT-CPG-OHE-SN150-BR-M3D-032201 SHEET: 4 OF 46 ©
STATUS: APPROVED FOR CONTRUCTION EDMS No:
DRG No.SMWSASBT-CPG-OHE-SN150-BR-DRG-032211 REV C.01 VER

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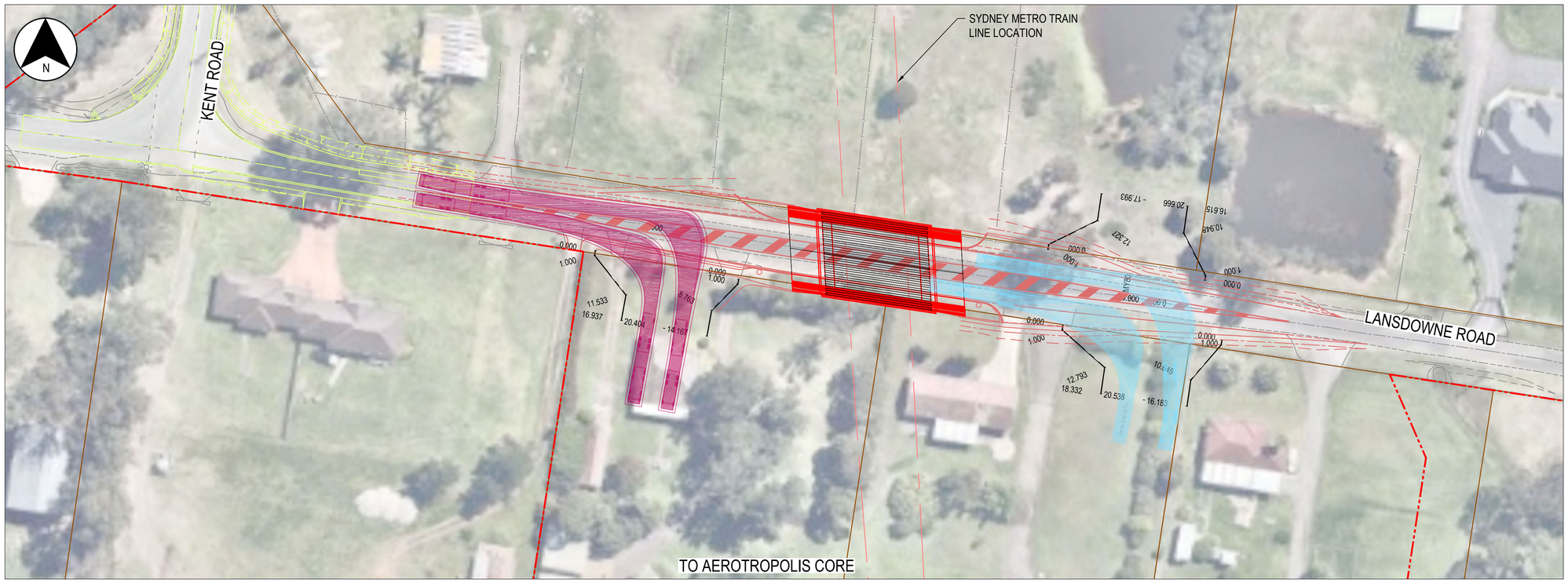


LEGEND

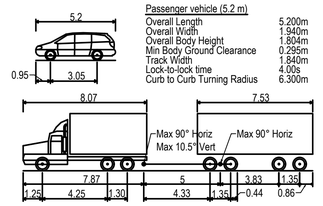
- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TEMPORARY TYPE F BARRIERS TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER

SWEPT PATH (AUSTROADS 2013)

- PASSENGER CAR (5.2m)
- PRIME MOVER AND SEMI TRAILER (19 m)

SWEPT PATH (CONSTRUCTION VEHICLES INFORMATION ONLY)

- CL112 TIPPER & QUAD DOG (18.9m)

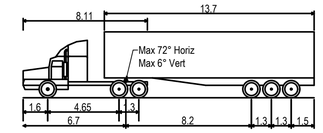


Passenger vehicle (5.2 m)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.300m

CL112 Tipper & Quad Dog

Overall Length	18.900m
Overall Width	2.500m
Overall Body Height	3.738m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°



Prime mover and semi-trailer (19 m)

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

NOTES

1. SWEPT PATHS HAVE BEEN RUN AT 5km/h
2. VEHICLE MOVEMENTS ACHIEVE A MINIMUM 0.5m CLEARANCE BETWEEN OPPOSING MOVEMENTS

FOR STAGE APPROVAL

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
B	FOR AFC STAGE APPROVAL				08.07.22
A	STAGE 3 EXTERNAL ISSUE				29.04.22

SCALE: AS SHOWN

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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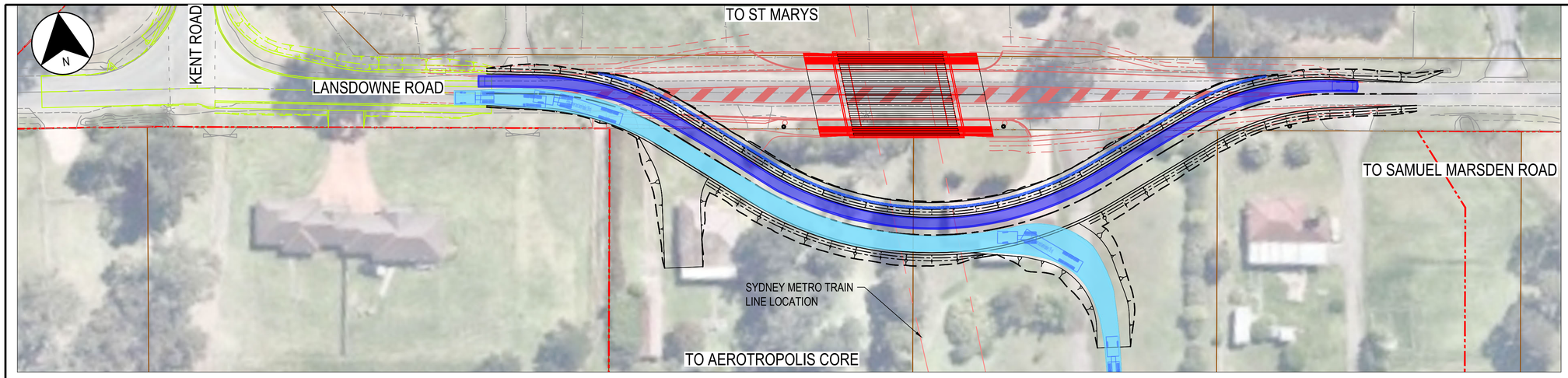
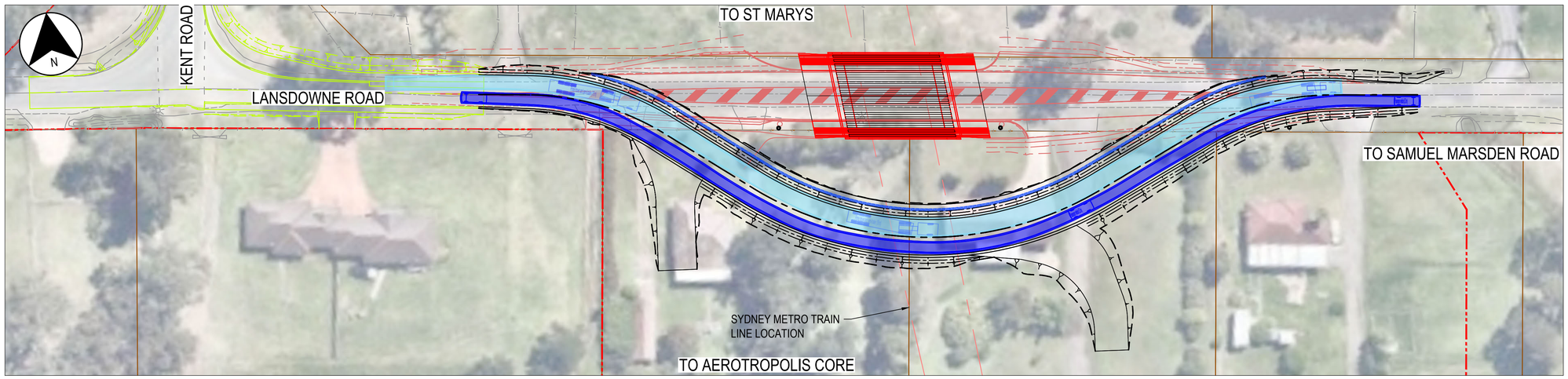
SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
TRAFFIC MANAGEMENT
SWEPT PATH PLAN - LANSDOWNE ROAD DRIVEWAYS

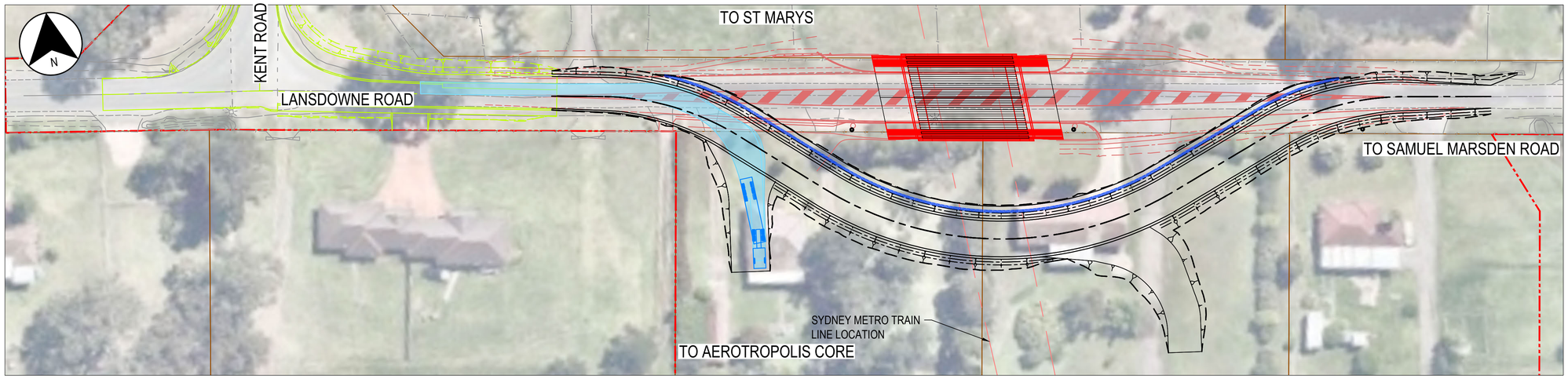
FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032413 | REV B | VER

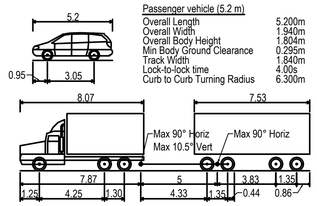
Appendix 4 Swept Paths

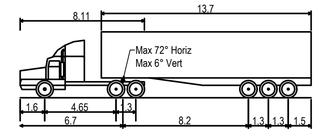
Drawing #	Description
Combined Drawings	Swept Paths for Stage 2 and 3
Kent Road Driveways	Swept Paths extracted from RIA for Kent Road Driveways











LEGEND

🟥	CONSTRUCTION SITE BOUNDARY
—	CADASTRAL BOUNDARY
🟦	TEMPORARY TYPE F BARRIERS TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER

SWEPT PATH (AUSTROADS 2013)

🟦	PASSENGER CAR (5.2m)
🟦	PRIME MOVER AND SEMI TRAILER (19 m)

SWEPT PATH (CONSTRUCTION VEHICLES INFORMATION ONLY)

▨	CL112 TIPPER & QUAD DOG (18.9m)

Passenger vehicle (5.2 m)

Overall Length	5.200m
Overall Width	1.940m
Overall Body Height	1.804m
Min Body Ground Clearance	0.295m
Track Width	1.840m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.300m

CL112 Tipper & Quad Dog

Overall Length	18.900m
Overall Width	2.500m
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Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

Prime mover and semi-trailer (19 m)

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

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Plot Date: 20/07/22 - 12:13

100mm AT FULL SIZE

File Path: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-TF-DRG-032412.dwg

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REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
B	FOR AFC STAGE APPROVAL	TJ	MS	CL	08.07.22
A	STAGE 3 EXTERNAL ISSUE	TJ	MS	CL	29.04.22

SCALE: AS SHOWN

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A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing.

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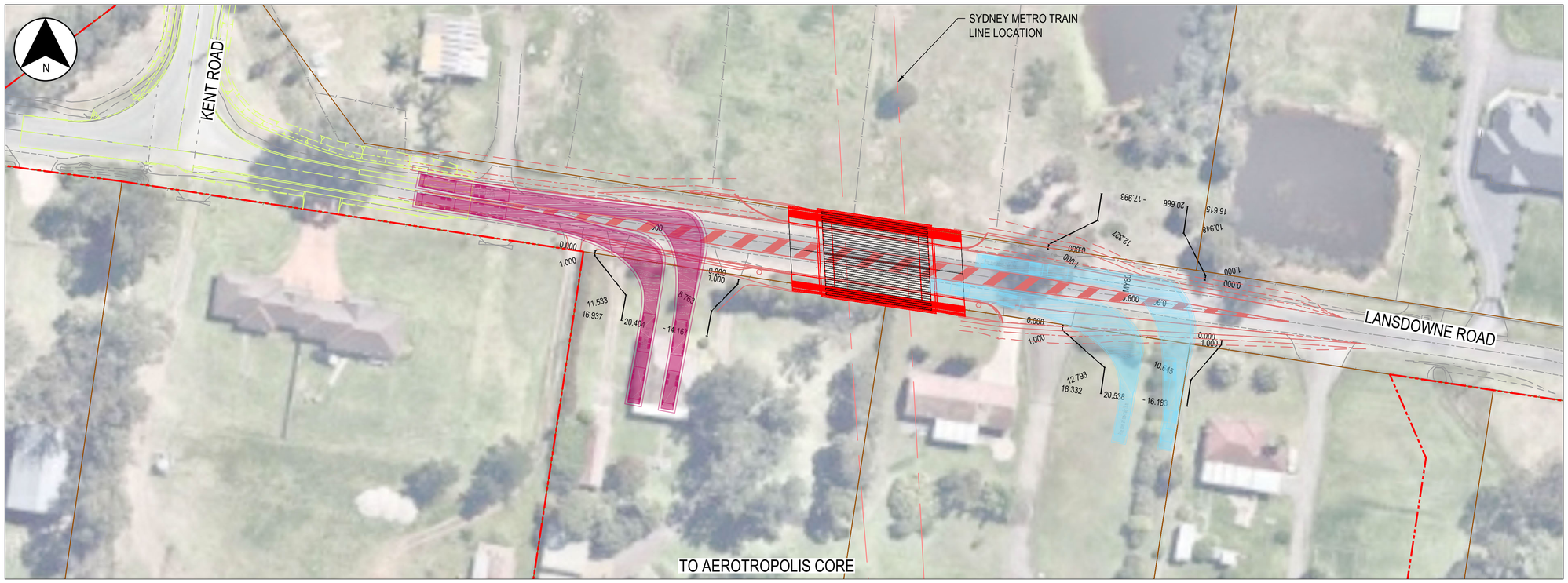
DRAWN	[redacted]	08.07.2022
DESIGNED		08.07.2022
DRG CHECK		08.07.2022
DESIGN CHE		08.07.2022
APPROVED		08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS
LANSDOWNE ROAD TEMPORARY DIVERSION
TRAFFIC MANAGEMENT
SWEPT PATH PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©
STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN | EDMS No:
DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032412 | REV B | VER



LEGEND

- CONSTRUCTION SITE BOUNDARY
- CADASTRAL BOUNDARY
- TEMPORARY TYPE F BARRIERS TfNSW APPROVED TL-3 TEMPORARY CONCRETE BARRIER

SWEPT PATH (AUSTROADS 2013)

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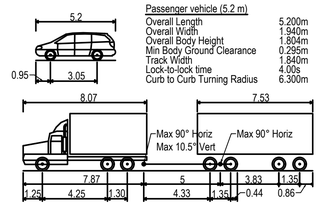
- PRIME MOVER AND SEMI TRAILER (19 m)

SWEPT PATH (CONSTRUCTION VEHICLES INFORMATION ONLY)

- CL112 TIPPER & QUAD DOG (18.9m)



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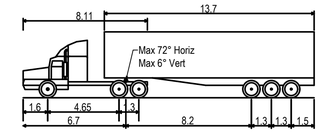

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Curb to Curb Turning Radius	12.500m

NOTES

1. SWEPT PATHS HAVE BEEN RUN AT 5km/h
2. VEHICLE MOVEMENTS ACHIEVE A MINIMUM 0.5m CLEARANCE BETWEEN OPPOSING MOVEMENTS

FOR STAGE APPROVAL

REV.	AMENDMENT DESCRIPTION	Design by	Verified by	Approved by	Date
B	FOR AFC STAGE APPROVAL	TJ	MS	CL	08.07.22
A	STAGE 3 EXTERNAL ISSUE	TJ	MS	CL	29.04.22

SCALE: AS SHOWN

1:500 @A1 0 5 10 15 20 25 m

A1 Original | Co-ordinate System: GDA2020/MGAZone56 | Height Datum: AHD | 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

Engineering Design Solutions — An enterprise partnership of Mott MacDonald and Sydney Metro

SYDNEY METRO

BG&E - bgeeng.com | CPB CONTRACTORS | Ghella

CIVIL

DRAWN	[redacted]	08.07.2022
DESIGNED		08.07.2022
DRG CHECK		08.07.2022
DESIGN CHEC		08.07.2022
APPROVED		08.07.2022

SYDNEY METRO - WESTERN SYDNEY AIRPORT – STATION BOXES AND TUNNELLING WORKS

LANSDOWNE ROAD TEMPORARY DIVERSION

TRAFFIC MANAGEMENT

SWEPT PATH PLAN - LANSDOWNE ROAD DRIVEWAYS

FILE No: SMWSASBT-CPG-OHE-SN150-MB-M3D-032401 | SHEET: 1 OF 1 | ©

STATUS: DETAILED DESIGN - STAGE 3 DETAILED DESIGN | EDMS No:

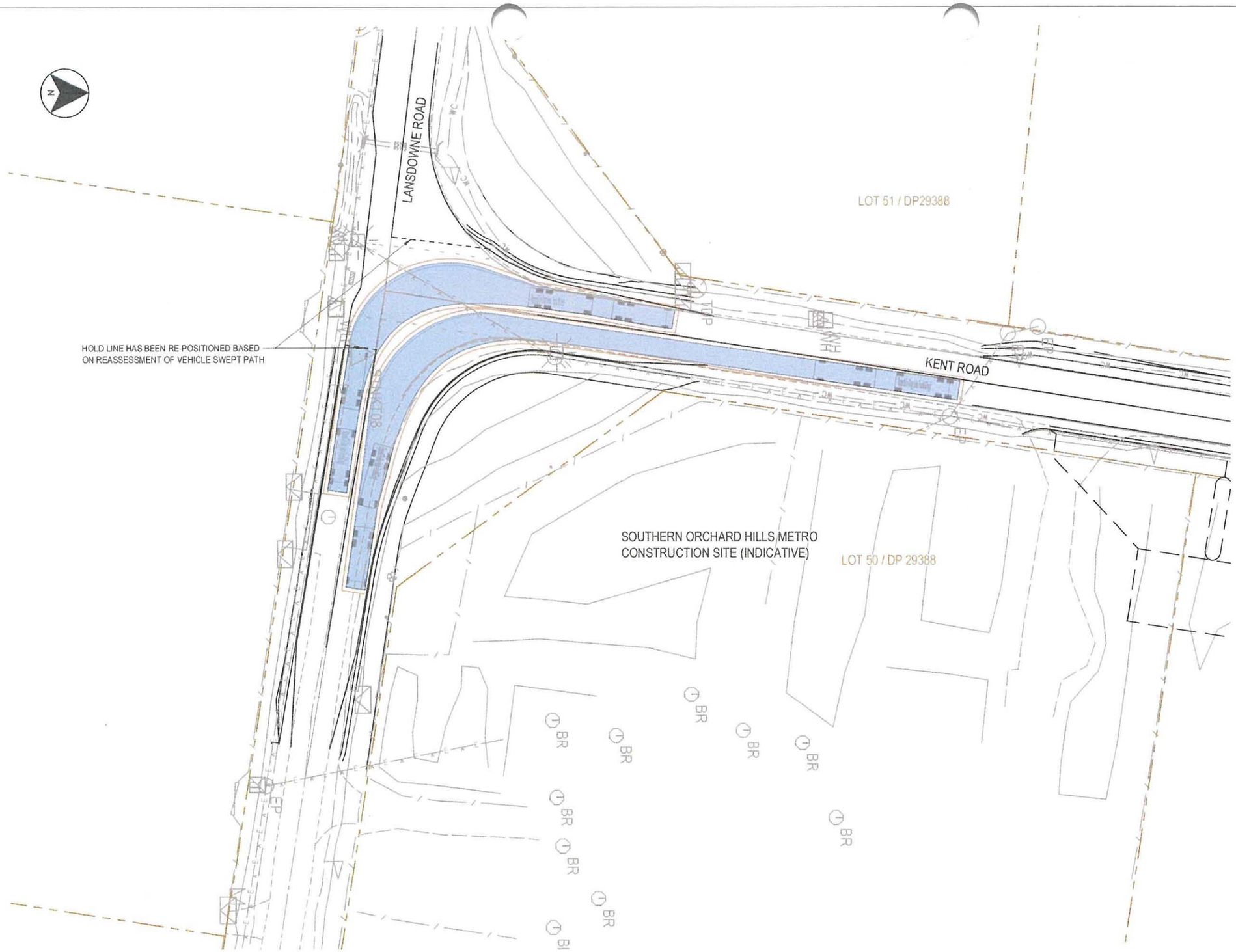
DRG No: SMWSASBT-CPG-OHE-SN150-TF-DRG-032413 | REV B | VER

Cad File: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-TF-DRG-032413.dwg

Plot Date: 20/07/22 - 11:22

100mm AT FULL SIZE

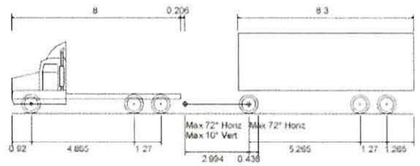
File Path: C:\adms\dms38810\SMWSASBT-CPG-OHE-SN150-TF-DRG-032413.dwg



LEGEND

- DESIGN
- CADASTRAL BOUNDARY
- VEHICLE SWEPT PATH ENVELOPE
- 0.5 m VEHICLE SWEPT PATH CLEARANCE ENVELOPE

TURN PATH VEHICLE PROFILE



Tipper&Tri-Dog (aka Truck&Dog)	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	3.738m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	12.640m

NOTES

1. THE PROPOSED DESIGN AND SITE BOUNDARIES SHOWN ON THIS PLAN ARE INDICATIVE ONLY, SUBJECT TO SURVEY, DESIGN DEVELOPMENT AND STAKEHOLDER CONFIRMATION.

FOR INFORMATION ONLY

THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

0 5 10 15 20 25 30 35 40 45 50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME: PW:/P0052927-SKT-MS-001001.DWG

DESIGN LOT CODE:

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: -

PLOT DATE / TIME: 23-Jul-21 / 3:18:26 PM

PLOT BY: CROUCHAD

EXTERNAL REFERENCE FILES:

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1	10.03.2021	PRELIMINARY		T. RASUL
2	17.06.2021	FOR INFORMATION		

SCALES ON A3 SIZE DRAWING: 2.5 0 2.5 5 7.5m; 1:500 FULL SIZE A3

CO-ORDINATE SYSTEM: GDA 94 MGA ZONE 56 HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: -

TITLE	[redacted]
DRAWN	
DRG CHECK	
DESIGN	
DESIGN CHECK	
VERIFIER	
PROJECT MNG	

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: GREATER SYDNEY DIVISION, EASING SYDNEY'S CONGESTION, SYDNEY METRO INTEGRATION

PENRITH CITY COUNCIL
SYDNEY METRO WESTERN SYDNEY AIRPORT
CONSTRUCTION SITE ACCESSES AT
KENT ROAD, ORCHARD HILLS
LANSDOWNE RD / KENT RD - DESIGN VEHICLE
TURNING PATH SKETCH

A3

SHEET 1 OF 6

TINSW REGISTRATION No: DS2021/000117

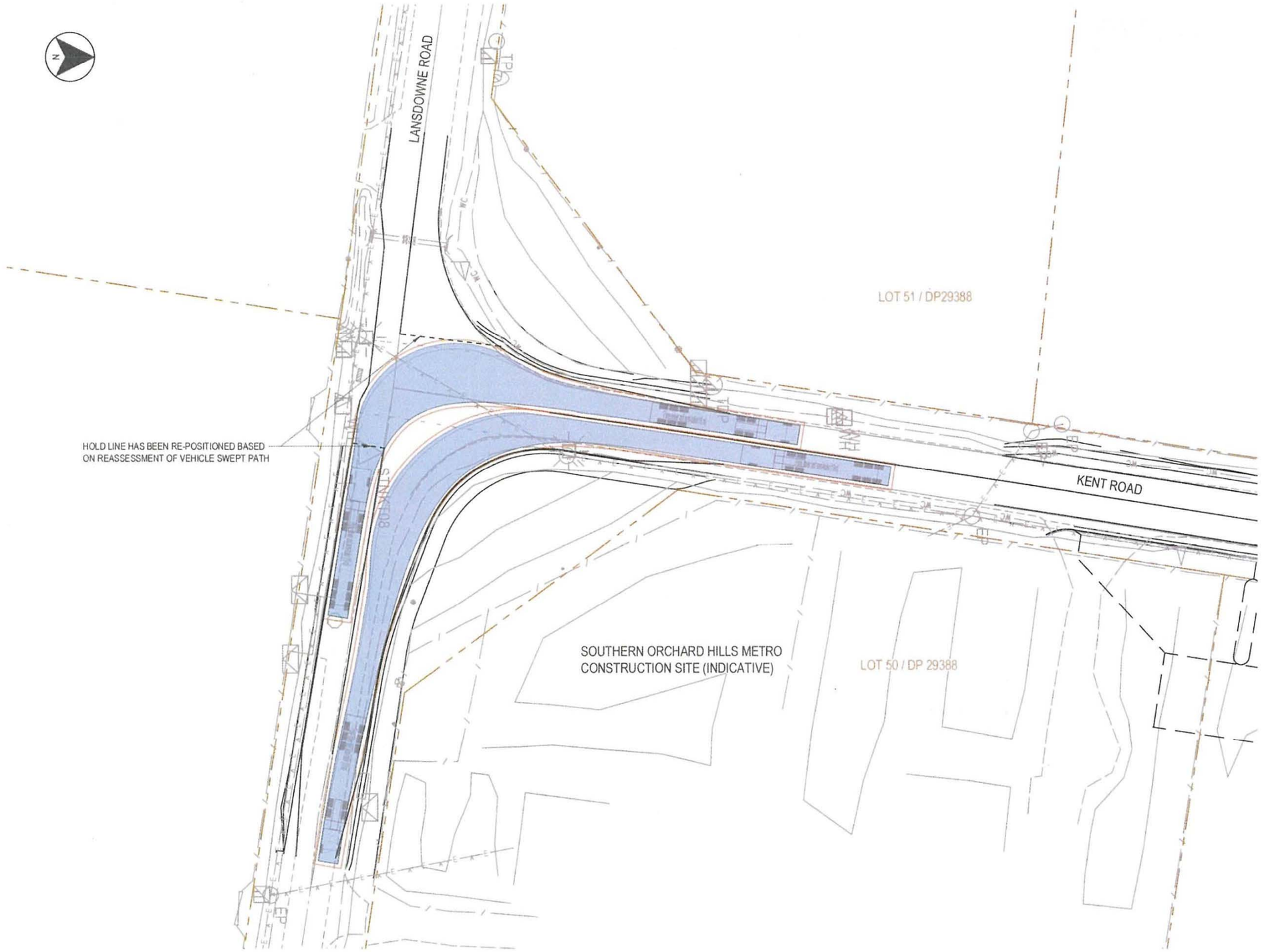
PART: 1

ISSUE STATUS: PRELIMINARY

EDMS No: -

SHEET No: SHT-MS-001001

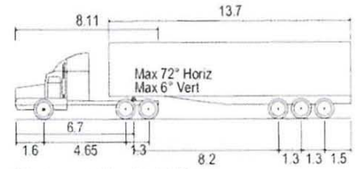
ISSUE: 2



LEGEND

- DESIGN
- CADASTRAL BOUNDARY
- VEHICLE SWEPT PATH ENVELOPE
- 0.5 m VEHICLE SWEPT PATH CLEARANCE ENVELOPE

TURN PATH VEHICLE PROFILE



Prime mover and semi-trailer (19 m)

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

NOTES

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FOR INFORMATION ONLY

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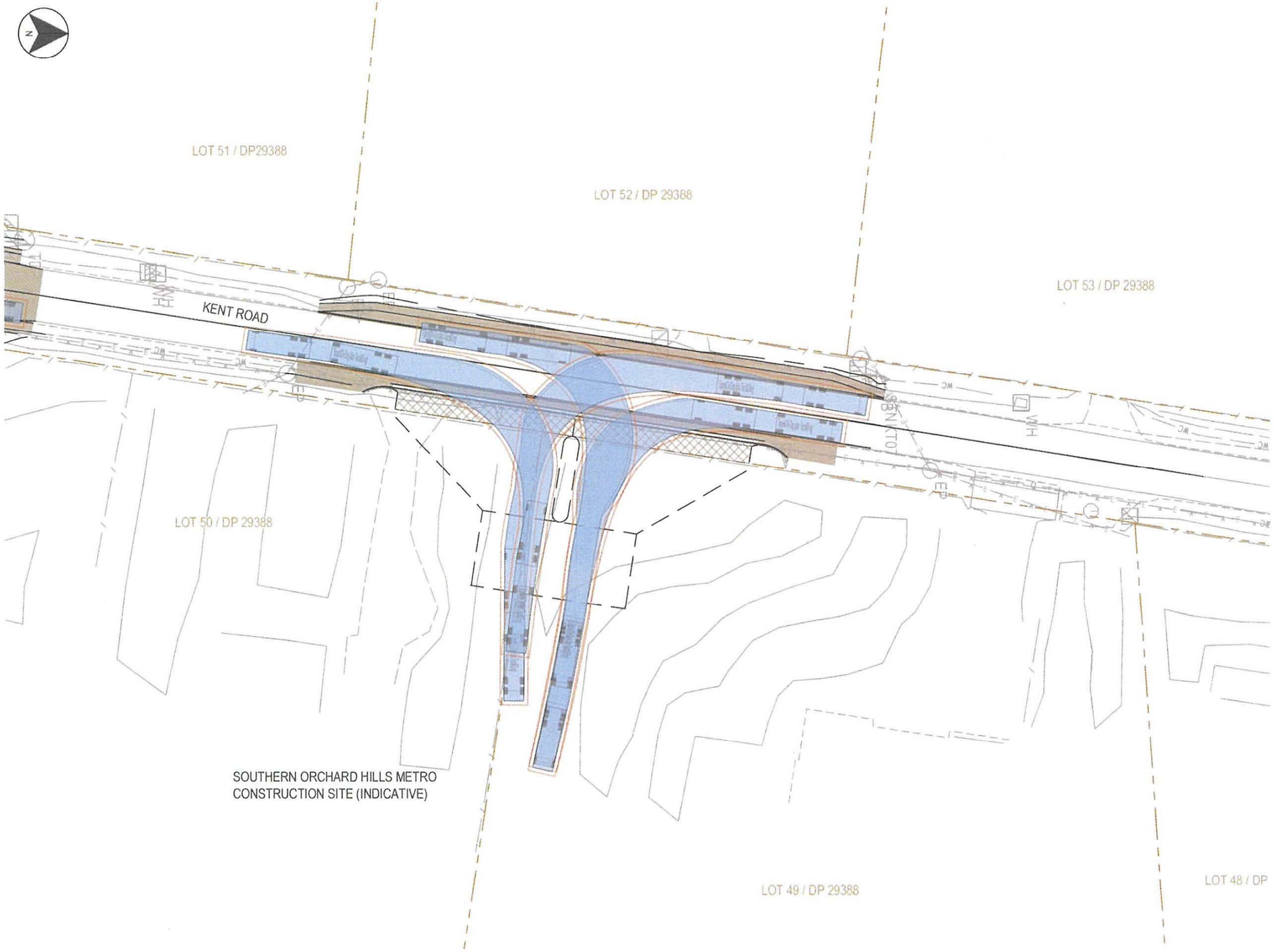
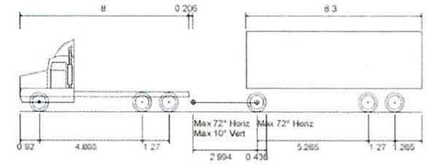
EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	TITLE	DATE		
	0	29.01.2021	FOR INFORMATION ONLY		T. NASH	2.5 0 2.5 5 7.5m 1 : 500 FULL SIZE A3		DRAWN	10.03.2021	PREPARED FOR: GREATER SYDNEY DIVISION EASING SYDNEY'S CONGESTION SYDNEY METRO INTEGRATION	TINSW REGISTRATION No: DS2021/000117 PART 1
	1	10.03.2021	PRELIMINARY		T. NASH			DRG CHECK	10.03.2021		
	2	16.06.2021	FOR INFORMATION					DESIGN	10.03.2021		
								DESIGN CHECK	10.03.2021		
								VERIFIER	10.03.2021		
						COORDINATE SYSTEM: GDA 94 MGA ZONE 56	HEIGHT DATUM: AHD	PROJECT MNGR	10.03.2021		ISSUE STATUS: PRELIMINARY; EDMS No: -; SHEET No: SHT-MS-001002; ISSUE 2



LEGEND

- DESIGN
- CADASTRAL BOUNDARY
- VEHICLE SWEPT PATH ENVELOPE
- 0.5 m VEHICLE SWEPT PATH CLEARANCE ENVELOPE

TURN PATH VEHICLE PROFILE



Tipper&Tri-Dog (aka Truck&Dog)

Overall Length	19.000m
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Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	12.640m

NOTES

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FOR INFORMATION ONLY

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	1	12.03.2021	PRELIMINARY		T RASUL
	2	17.06.2021	FOR INFORMATION		
	3	23.07.2021	FOR INFORMATION		

SCALES ON A3 SIZE DRAWING: 2.5 0 2.5 5 7.5m; 1 : 500 FULL SIZE A3

CO-ORDINATE SYSTEM: GDA 94 MGA ZONE 56 HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: [redacted]

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: GREATER SYDNEY DIVISION EASING SYDNEY'S CONGESTION SYDNEY METRO INTEGRATION

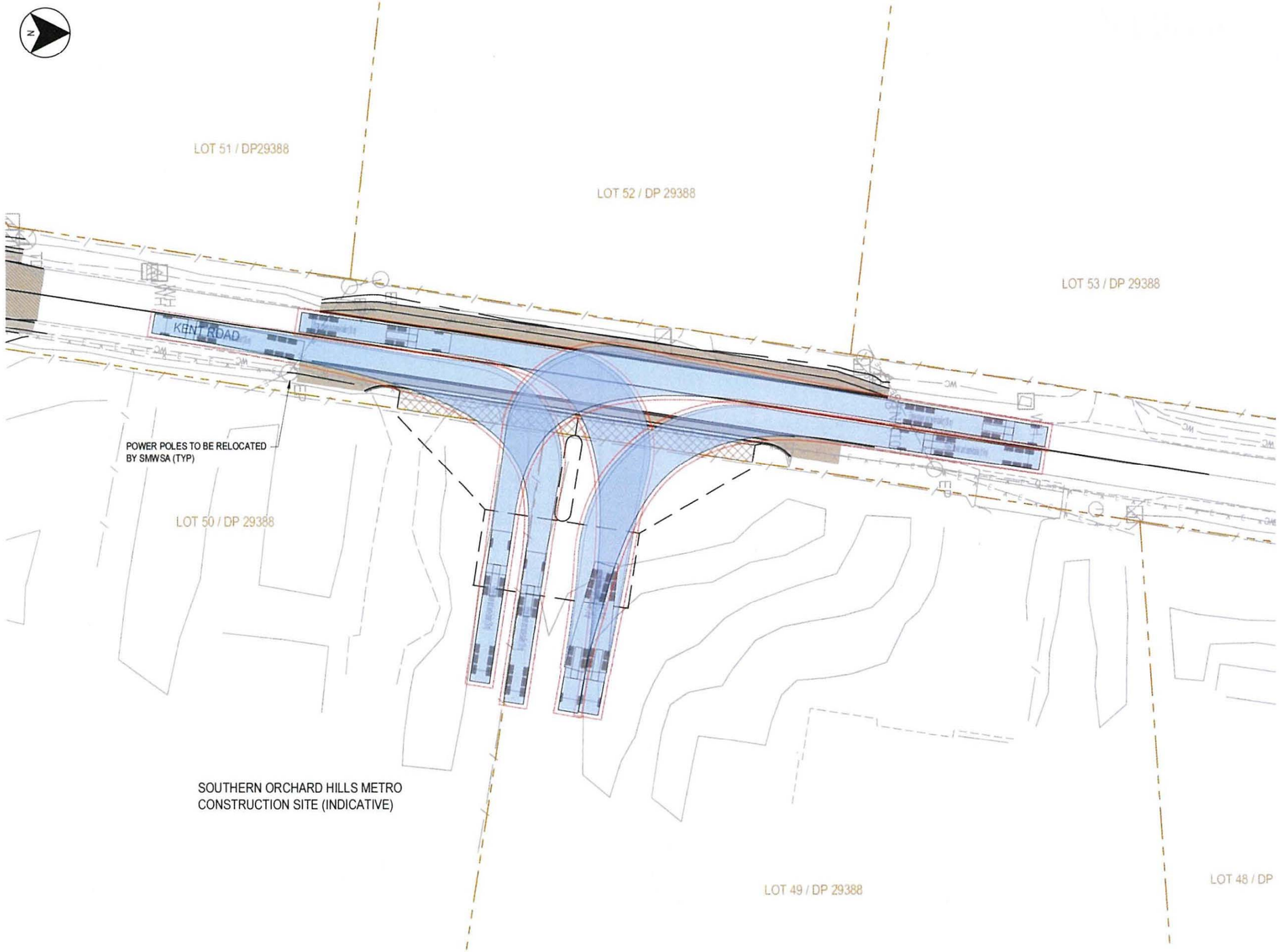
PENRITH CITY COUNCIL
SYDNEY METRO WESTERN SYDNEY AIRPORT
CONSTRUCTION SITE ACCESSES AT
KENT ROAD, ORCHARD HILLS
SOTHERN VEHICULAR CROSSING - DESIGN VEHICLE

A3

SHEET 3 OF 6

TINSW REGISTRATION No: DS2021/000117 PART 1

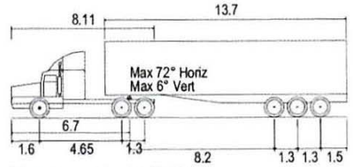
ISSUE STATUS: PRELIMINARY EDMS No: - SHEET No: SHT-MS-001011 ISSUE 3



LEGEND

- DESIGN
- CADASTRAL BOUNDARY
- VEHICLE SWEPT PATH ENVELOPE
- 0.5 m VEHICLE SWEPT PATH CLEARANCE ENVELOPE

TURN PATH VEHICLE PROFILE



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FOR INFORMATION ONLY

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DESIGN LOT CODE: -
DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: -

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1	10.03.2021	PRELIMINARY		C VAVOULAS
2	16.06.2021	FOR INFORMATION		
	23.07.2021	FOR INFORMATION		

SCALES ON A3 SIZE DRAWING: 2.5 0 2.5 5 7.5m — 1 : 500 FULL SIZE A3

[redacted]

DRAWINGS / DESIGN PREPARED BY: -

COORDINATE SYSTEM: GDA 94 MGA ZONE 56
HEIGHT DATUM: AHD

NSW GOVERNMENT Transport for NSW

PREPARED FOR
GREATER SYDNEY DIVISION
EASING SYDNEY'S CONGESTION
SYDNEY METRO INTEGRATION

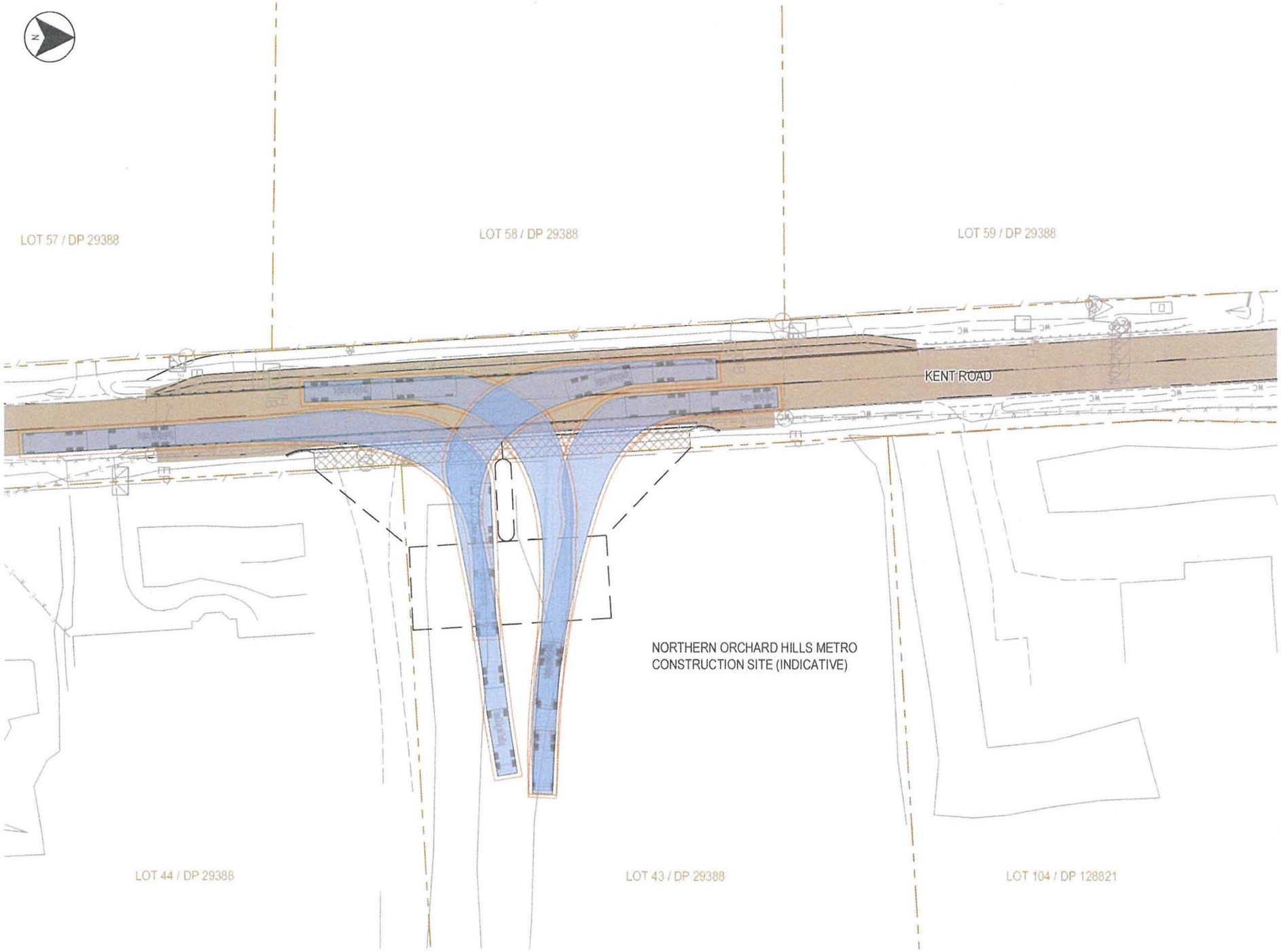
PENRITH CITY COUNCIL
SYDNEY METRO WESTERN SYDNEY AIRPORT
A3

CONSTRUCTION SITE ACCESSES AT
KENT ROAD, ORCHARD HILLS
SOTHERN VEHICULAR CROSSING - CHECK VEHICLE
SHEET 4 OF 6

TfNSW REGISTRATION No. DS2021/000117 — PART 1

ISSUE STATUS: DETAILED DESIGN
EDMS No.: -
SHEET No.: SHT-MS-001012
ISSUE: 3

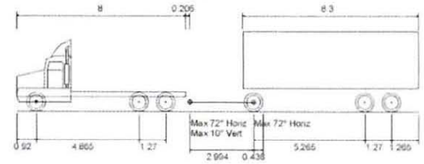
Last saved by CROUCHADI(2021-07-23) Last Plotted 2021-07-23



LEGEND

- DESIGN
- CADASTRAL BOUNDARY
- VEHICLE SWEPT PATH ENVELOPE
- 0.5 m VEHICLE SWEPT PATH CLEARANCE ENVELOPE

TURN PATH VEHICLE PROFILE



Tipper&Tri-Dog (aka Truck&Dog)	
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FOR INFORMATION ONLY

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50mm ON A3 SIZE ORIGINAL

DRAWING FILE LOCATION / NAME: PATH_LOCATION

DESIGN LOT CODE:

DESIGN MODEL FILE(S) USED FOR DOCUMENTATION OF THIS DRAWING: -

EXTERNAL REFERENCE FILES	REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No	APPROVAL
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	1	12.03.2021	PRELIMINARY		
	2	17.06.2021	FOR INFORMATION		
	3	23.07.2021	FOR INFORMATION		

SCALES ON A3 SIZE DRAWING: 2.5 0 2.5 5 7.5m; 1:500 FULL SIZE A3

CO-ORDINATE SYSTEM: MGA ZONE 56 HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY: -

[redacted]

CLIENT: NSW GOVERNMENT Transport for NSW

PREPARED FOR: GREATER SYDNEY DIVISION, EASING SYDNEY'S CONGESTION, SYDNEY METRO INTEGRATION

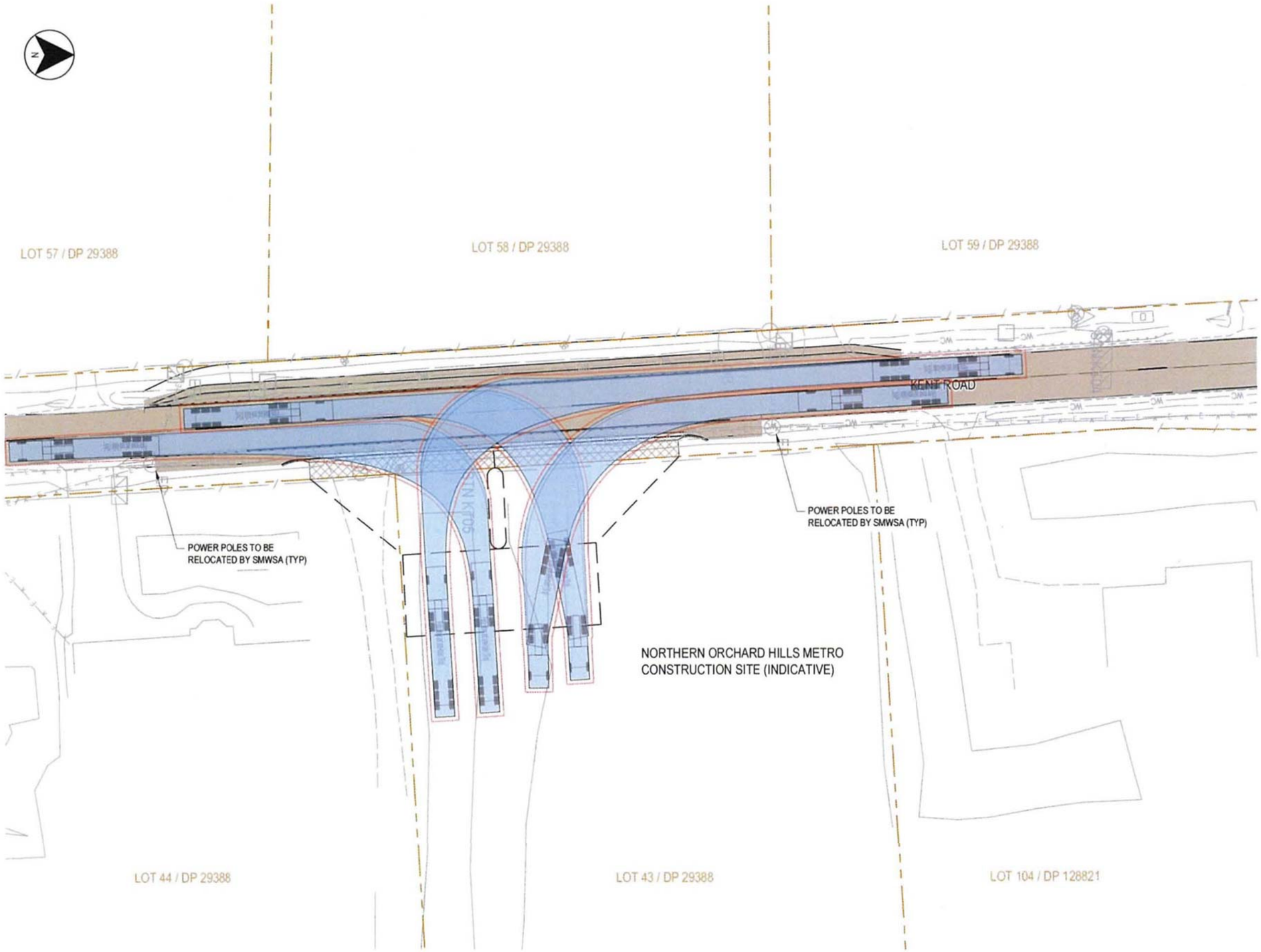
PENRITH CITY COUNCIL
SYDNEY METRO WESTERN SYDNEY AIRPORT
CONSTRUCTION SITE ACCESSES AT
KENT ROAD, ORCHARD HILLS
NORTHERN VEHICULAR CROSSING - DESIGN VEHICLE

A3

SHEET 5 OF 6

TINSW REGISTRATION No: DS2021/000117 PART 1

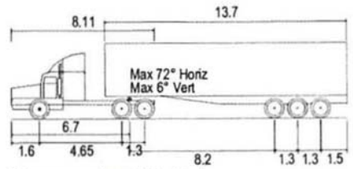
ISSUE STATUS: DETAILED DESIGN | EDMS No: - | SHEET No: SHT-MS-001021 | ISSUE 3



LEGEND

- DESIGN
- CADASTRAL BOUNDARY
- VEHICLE SWEPT PATH ENVELOPE
- 0.5 m VEHICLE SWEPT PATH CLEARANCE ENVELOPE

TURN PATH VEHICLE PROFILE



Prime mover and semi-trailer (19 m)	
Overall Length	19.000m
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Track Width	2.500m
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NOTES

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FOR INFORMATION ONLY

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	3	23.07.2021	FOR INFORMATION		

SCALES ON A3 SIZE DRAWING: 2.5 0 2.5 5 7.5m; 1 : 500 FULL SIZE A3

[redacted]

Transport for NSW

PENRITH CITY COUNCIL
SYDNEY METRO WESTERN SYDNEY AIRPORT
CONSTRUCTION SITE ACCESSES AT
KENT ROAD, ORCHARD HILLS
NORTHERN VEHICULAR CROSSING - CHECK VEHICLE
SHEET 6 OF 6

A3

COORDINATE SYSTEM	HEIGHT DATUM	TINSW REGISTRATION No.	PART
GDA 94 MGA ZONE 56	AHD	DS2021/000117	1

ISSUE STATUS	EDMS No.	SHEET No.	ISSUE
DETAILED DESIGN	-	SHT-MS-001022	3

Appendix 5 Staging Drawings and Traffic Guidance Schemes

Drawing #	Location	From	To	Works Description	Time
22075CAD002 FIGURE 1	Lansdowne Road	Kent Road	Samuel Marseden Road	Traffic Stage 1	Day shifts
22075CAD002 FIGURE 2	Lansdowne Road	Kent Road	Samuel Marseden Road	Traffic Stage 2	24/7
22075CAD002 FIGURE 3	Lansdowne Road	Kent Road	Samuel Marseden Road	Traffic Stage 3	24/7
WSA-TGS-A-KEN-ALL-1101	Lansdowne Road	Kent Road	Samuel Marseden Road	Intersection works at Kent Road and Lansdowne Road Intersection	Day shifts
WSA-TGS-A-KEN-ALL-1102	Kent Road	M4 off ramp	Lansdowne Road	Local Road Widening and sign installation	Day shifts
WSA-TGS-A-KEN-SB-1101	Kent Road	M4 off ramp	Lansdowne Road	Local Road Widening	Day shifts
WSA-TGS-A-KEN-SB-1102	Kent Road	M4 off ramp	Lansdowne Road	Local Road Widening	Day shifts
WSA-TGS-A-LAN-WB-1101	Lansdowne Road	Kent Road	Samuel Marseden Road	Tie in works during stage 1	Day shifts
WSA-TGS-A-LAN-WB-1102	Lansdowne Road	Kent Road	Samuel Marseden Road	Focus drawing for 22075CAD002 FIGURE 1	Day shifts

CERTIFICATION

THE UNDERSIGNED HAS OBTAINED "PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN" CERTIFICATION.

CERTIFICATE NO: 0052042754
WAYNE JOHNSON

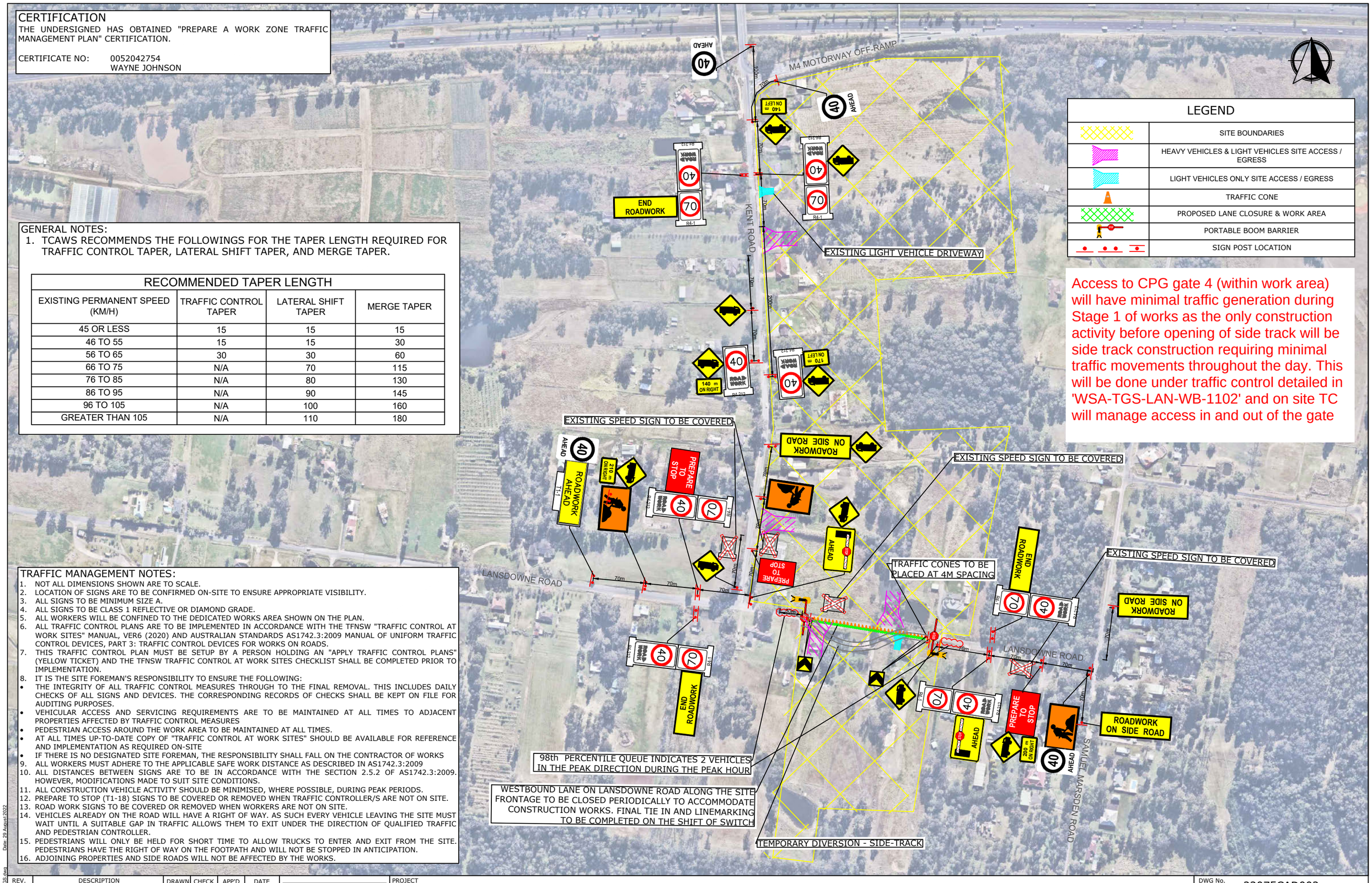
GENERAL NOTES:

1. TCAWS RECOMMENDS THE FOLLOWINGS FOR THE TAPER LENGTH REQUIRED FOR TRAFFIC CONTROL TAPER, LATERAL SHIFT TAPER, AND MERGE TAPER.

RECOMMENDED TAPER LENGTH			
EXISTING PERMANENT SPEED (KM/H)	TRAFFIC CONTROL TAPER	LATERAL SHIFT TAPER	MERGE TAPER
45 OR LESS	15	15	15
46 TO 55	15	15	30
56 TO 65	30	30	60
66 TO 75	N/A	70	115
76 TO 85	N/A	80	130
86 TO 95	N/A	90	145
96 TO 105	N/A	100	160
GREATER THAN 105	N/A	110	180

TRAFFIC MANAGEMENT NOTES:

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 REFLECTIVE OR DIAMOND GRADE.
5. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
6. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE TFNSW "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER6 (2020) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
7. THIS TRAFFIC CONTROL PLAN MUST BE SETUP BY A PERSON HOLDING AN "APPLY TRAFFIC CONTROL PLANS" (YELLOW TICKET) AND THE TFNSW TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
8. IT IS THE SITE FOREMAN'S RESPONSIBILITY TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
   - PEDESTRIAN ACCESS AROUND THE WORK AREA TO BE MAINTAINED AT ALL TIMES.
   - AT ALL TIMES UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
   - IF THERE IS NO DESIGNATED SITE FOREMAN, THE RESPONSIBILITY SHALL FALL ON THE CONTRACTOR OF WORKS
9. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009
10. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH THE SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS MADE TO SUIT SITE CONDITIONS.
11. ALL CONSTRUCTION VEHICLE ACTIVITY SHOULD BE MINIMISED, WHERE POSSIBLE, DURING PEAK PERIODS.
12. PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
13. ROAD WORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. VEHICLES ALREADY ON THE ROAD WILL HAVE A RIGHT OF WAY. AS SUCH EVERY VEHICLE LEAVING THE SITE MUST WAIT UNTIL A SUITABLE GAP IN TRAFFIC ALLOWS THEM TO EXIT UNDER THE DIRECTION OF QUALIFIED TRAFFIC AND PEDESTRIAN CONTROLLER.
15. PEDESTRIANS WILL ONLY BE HELD FOR SHORT TIME TO ALLOW TRUCKS TO ENTER AND EXIT FROM THE SITE. PEDESTRIANS HAVE THE RIGHT OF WAY ON THE FOOTPATH AND WILL NOT BE STOPPED IN ANTICIPATION.
16. ADJOINING PROPERTIES AND SIDE ROADS WILL NOT BE AFFECTED BY THE WORKS.



LEGEND

	SITE BOUNDARIES
	HEAVY VEHICLES & LIGHT VEHICLES SITE ACCESS / EGRESS
	LIGHT VEHICLES ONLY SITE ACCESS / EGRESS
	TRAFFIC CONE
	PROPOSED LANE CLOSURE & WORK AREA
	PORTABLE BOOM BARRIER
	SIGN POST LOCATION

Access to CPG gate 4 (within work area) will have minimal traffic generation during Stage 1 of works as the only construction activity before opening of side track will be side track construction requiring minimal traffic movements throughout the day. This will be done under traffic control detailed in 'WSA-TGS-LAN-WB-1102' and on site TC will manage access in and out of the gate

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION				09/08/22

ttpp transport planning

PROJECT: SYDNEY METRO WESTERN SYDNEY AIRPORT - ORCHARD HILLS SITE

TITLE: TRAFFIC STAGE 1 - TIE IN OF SIDE-TRACK WITH EXISTING LANSDOWNE ROAD

DWG No. 22075CAD002 FIGURE 1

DATE STAMP 09 AUGUST 2022

PROJECT No. 22075 | SCALE 1:4500 @A3 | REV. A

Filename: 220752CAD002-220829-TGS.dwn

Date: 29 August 2022

CERTIFICATION

THE UNDERSIGNED HAS OBTAINED "PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN" CERTIFICATION.

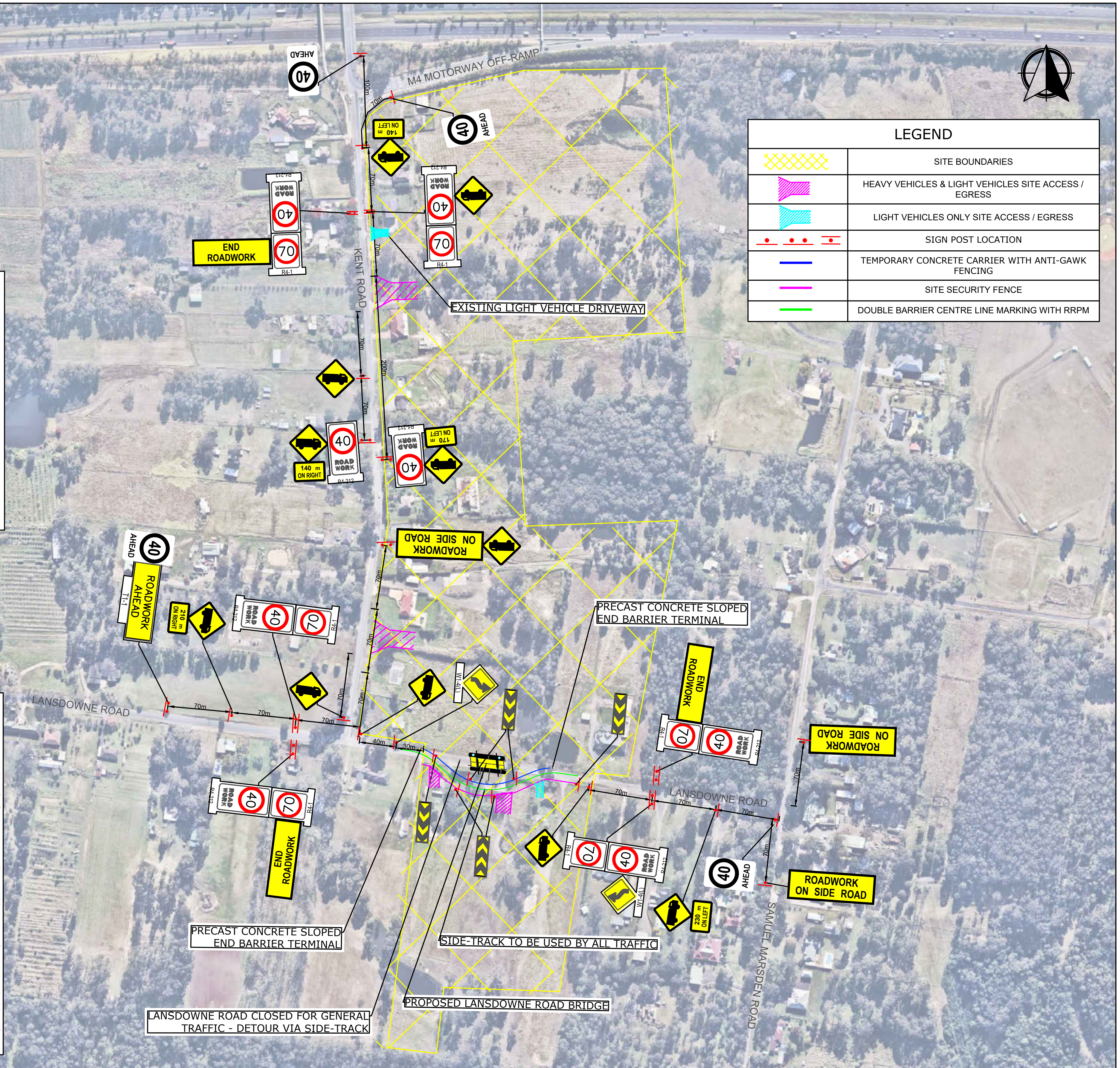
CERTIFICATE NO: 0052042754
WAYNE JOHNSON

GENERAL NOTES:

1. TCAWS RECOMMENDS THE FOLLOWINGS FOR THE TAPER LENGTH REQUIRED FOR TRAFFIC CONTROL TAPER, LATERAL SHIFT TAPER, AND MERGE TAPER.

RECOMMENDED TAPER LENGTH

EXISTING PERMANENT SPEED (KM/H)	TRAFFIC CONTROL TAPER	LATERAL SHIFT TAPER	MERGE TAPER
45 OR LESS	15	15	15
46 TO 55	15	15	30
56 TO 65	30	30	60
66 TO 75	N/A	70	115
76 TO 85	N/A	80	130
86 TO 95	N/A	90	145
96 TO 105	N/A	100	160
GREATER THAN 105	N/A	110	180



LEGEND

(yellow cross-hatch)	SITE BOUNDARIES
(magenta hatch)	HEAVY VEHICLES & LIGHT VEHICLES SITE ACCESS / EGRESS
(cyan hatch)	LIGHT VEHICLES ONLY SITE ACCESS / EGRESS
(red symbols)	SIGN POST LOCATION
(blue line)	TEMPORARY CONCRETE CARRIER WITH ANTI-GAWK FENCING
(magenta line)	SITE SECURITY FENCE
(green line)	DOUBLE BARRIER CENTRE LINE MARKING WITH RRPM

TRAFFIC MANAGEMENT NOTES:

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 REFLECTIVE OR DIAMOND GRADE.
5. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
6. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE TFNSW "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER6 (2020) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
7. THIS TRAFFIC CONTROL PLAN MUST BE SETUP BY A PERSON HOLDING AN "APPLY TRAFFIC CONTROL PLANS" (YELLOW TICKET) AND THE TFNSW TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
8. IT IS THE SITE FOREMAN'S RESPONSIBILITY TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
   - PEDESTRIAN ACCESS AROUND THE WORK AREA TO BE MAINTAINED AT ALL TIMES.
   - AT ALL TIMES UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
   - IF THERE IS NO DESIGNATED SITE FOREMAN, THE RESPONSIBILITY SHALL FALL ON THE CONTRACTOR OF WORKS
9. ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009
10. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH THE SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS MADE TO SUIT SITE CONDITIONS.
11. ALL CONSTRUCTION VEHICLE ACTIVITY SHOULD BE MINIMISED, WHERE POSSIBLE, DURING PEAK PERIODS.
12. PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
13. ROAD WORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. VEHICLES ALREADY ON THE ROAD WILL HAVE A RIGHT OF WAY. AS SUCH EVERY VEHICLE LEAVING THE SITE MUST WAIT UNTIL A SUITABLE GAP IN TRAFFIC ALLOWS THEM TO EXIT UNDER THE DIRECTION OF QUALIFIED TRAFFIC AND PEDESTRIAN CONTROLLER.
15. PEDESTRIANS WILL ONLY BE HELD FOR SHORT TIME TO ALLOW TRUCKS TO ENTER AND EXIT FROM THE SITE. PEDESTRIANS HAVE THE RIGHT OF WAY ON THE FOOTPATH AND WILL NOT BE STOPPED IN ANTICIPATION.
16. ADJOINING PROPERTIES AND SIDE ROADS WILL NOT BE AFFECTED BY THE WORKS.

Date: 29 August 2022
Filename: 22075CAD002-220829-TGS.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	■	■	■	29/08/22

ttpp transport planning

PROJECT: SYDNEY METRO WESTERN SYDNEY AIRPORT - ORCHARD HILLS SITE

TITLE: TRAFFIC STAGE 2 - TRAFFIC SWITCH TO SIDE-TRACK

DWG No. 22075CAD002 FIGURE 2

DATE STAMP 29 AUGUST 2022

PROJECT No.	SCALE	REV.
22075	1:4500 @A3	B

CERTIFICATION

THE UNDERSIGNED HAS OBTAINED "PREPARE A WORK ZONE TRAFFIC MANAGEMENT PLAN" CERTIFICATION.

CERTIFICATE NO: 0052042754
WAYNE JOHNSON

GENERAL NOTES:

1. TCAWS RECOMMENDS THE FOLLOWINGS FOR THE TAPER LENGTH REQUIRED FOR TRAFFIC CONTROL TAPER, LATERAL SHIFT TAPER, AND MERGE TAPER.

RECOMMENDED TAPER LENGTH			
EXISTING PERMANENT SPEED (KM/H)	TRAFFIC CONTROL TAPER	LATERAL SHIFT TAPER	MERGE TAPER
45 OR LESS	15	15	15
46 TO 55	15	15	30
56 TO 65	30	30	60
66 TO 75	N/A	70	115
76 TO 85	N/A	80	130
86 TO 95	N/A	90	145
96 TO 105	N/A	100	160
GREATER THAN 105	N/A	110	180

TRAFFIC MANAGEMENT NOTES:

1. NOT ALL DIMENSIONS SHOWN ARE TO SCALE.
2. LOCATION OF SIGNS ARE TO BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
3. ALL SIGNS TO BE MINIMUM SIZE A.
4. ALL SIGNS TO BE CLASS 1 REFLECTIVE OR DIAMOND GRADE.
5. ALL WORKERS WILL BE CONFINED TO THE DEDICATED WORKS AREA SHOWN ON THE PLAN.
6. ALL TRAFFIC CONTROL PLANS ARE TO BE IMPLEMENTED IN ACCORDANCE WITH THE TFNSW "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER6 (2020) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
7. THIS TRAFFIC CONTROL PLAN MUST BE SETUP BY A PERSON HOLDING AN "APPLY TRAFFIC CONTROL PLANS" (YELLOW TICKET) AND THE TFNSW TRAFFIC CONTROL AT WORK SITES CHECKLIST SHALL BE COMPLETED PRIOR TO IMPLEMENTATION.
8. IT IS THE SITE FOREMAN'S RESPONSIBILITY TO ENSURE THE FOLLOWING:
   - THE INTEGRITY OF ALL TRAFFIC CONTROL MEASURES THROUGH TO THE FINAL REMOVAL. THIS INCLUDES DAILY CHECKS OF ALL SIGNS AND DEVICES. THE CORRESPONDING RECORDS OF CHECKS SHALL BE KEPT ON FILE FOR AUDITING PURPOSES.
   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
   - PEDESTRIAN ACCESS AROUND THE WORK AREA TO BE MAINTAINED AT ALL TIMES.
   - AT ALL TIMES UP-TO-DATE COPY OF "TRAFFIC CONTROL AT WORK SITES" SHOULD BE AVAILABLE FOR REFERENCE AND IMPLEMENTATION AS REQUIRED ON-SITE
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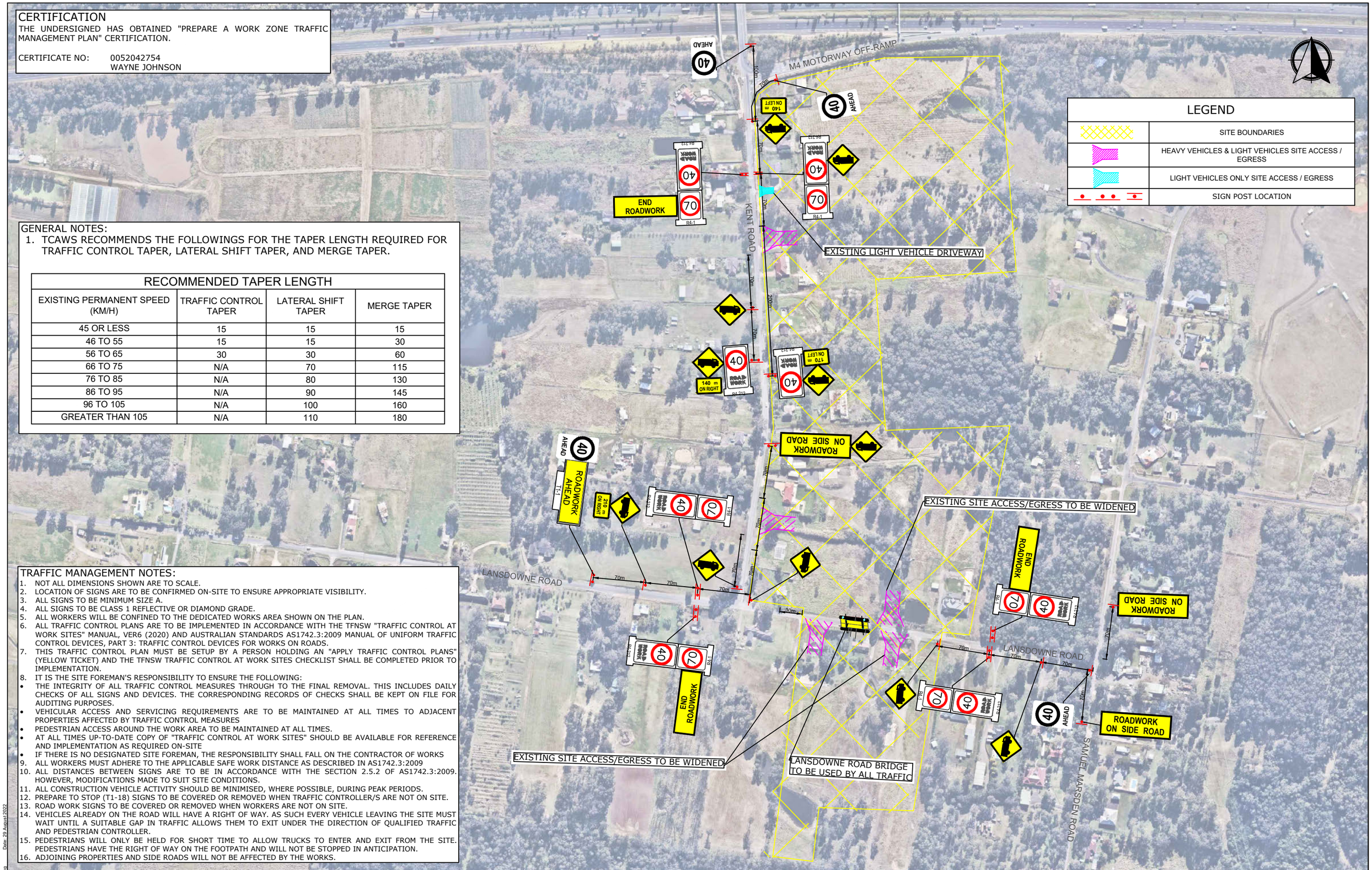
10. ALL DISTANCES BETWEEN SIGNS ARE TO BE IN ACCORDANCE WITH THE SECTION 2.5.2 OF AS1742.3:2009. HOWEVER, MODIFICATIONS MADE TO SUIT SITE CONDITIONS.
11. ALL CONSTRUCTION VEHICLE ACTIVITY SHOULD BE MINIMISED, WHERE POSSIBLE, DURING PEAK PERIODS.
12. PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE.
13. ROAD WORK SIGNS TO BE COVERED OR REMOVED WHEN WORKERS ARE NOT ON SITE.
14. VEHICLES ALREADY ON THE ROAD WILL HAVE A RIGHT OF WAY. AS SUCH EVERY VEHICLE LEAVING THE SITE MUST WAIT UNTIL A SUITABLE GAP IN TRAFFIC ALLOWS THEM TO EXIT UNDER THE DIRECTION OF QUALIFIED TRAFFIC AND PEDESTRIAN CONTROLLER.
15. PEDESTRIANS WILL ONLY BE HELD FOR SHORT TIME TO ALLOW TRUCKS TO ENTER AND EXIT FROM THE SITE. PEDESTRIANS HAVE THE RIGHT OF WAY ON THE FOOTPATH AND WILL NOT BE STOPPED IN ANTICIPATION.
16. ADJOINING PROPERTIES AND SIDE ROADS WILL NOT BE AFFECTED BY THE WORKS.



LEGEND

	SITE BOUNDARIES
	HEAVY VEHICLES & LIGHT VEHICLES SITE ACCESS / EGRESS
	LIGHT VEHICLES ONLY SITE ACCESS / EGRESS
	SIGN POST LOCATION

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION				09/08/22

ttpp transport planning

PROJECT: SYDNEY METRO WESTERN SYDNEY AIRPORT - ORCHARD HILLS SITE

TITLE: TRAFFIC STAGE 3 - TRAFFIC SWITCH TO PERMANENT LANSDOWNE ROAD BRIDGE

DWG No. 22075CAD002 FIGURE 3

DATE STAMP 09 AUGUST 2022

PROJECT No. 22075 | SCALE 1:4500 @A3 | REV. A

Date: 29 August 2022

Filename: 22075CAD002-220829-TGS.dwg

CPB CONTRACTORS

Legend

- Cone
- Safety Zone
- Work Area

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

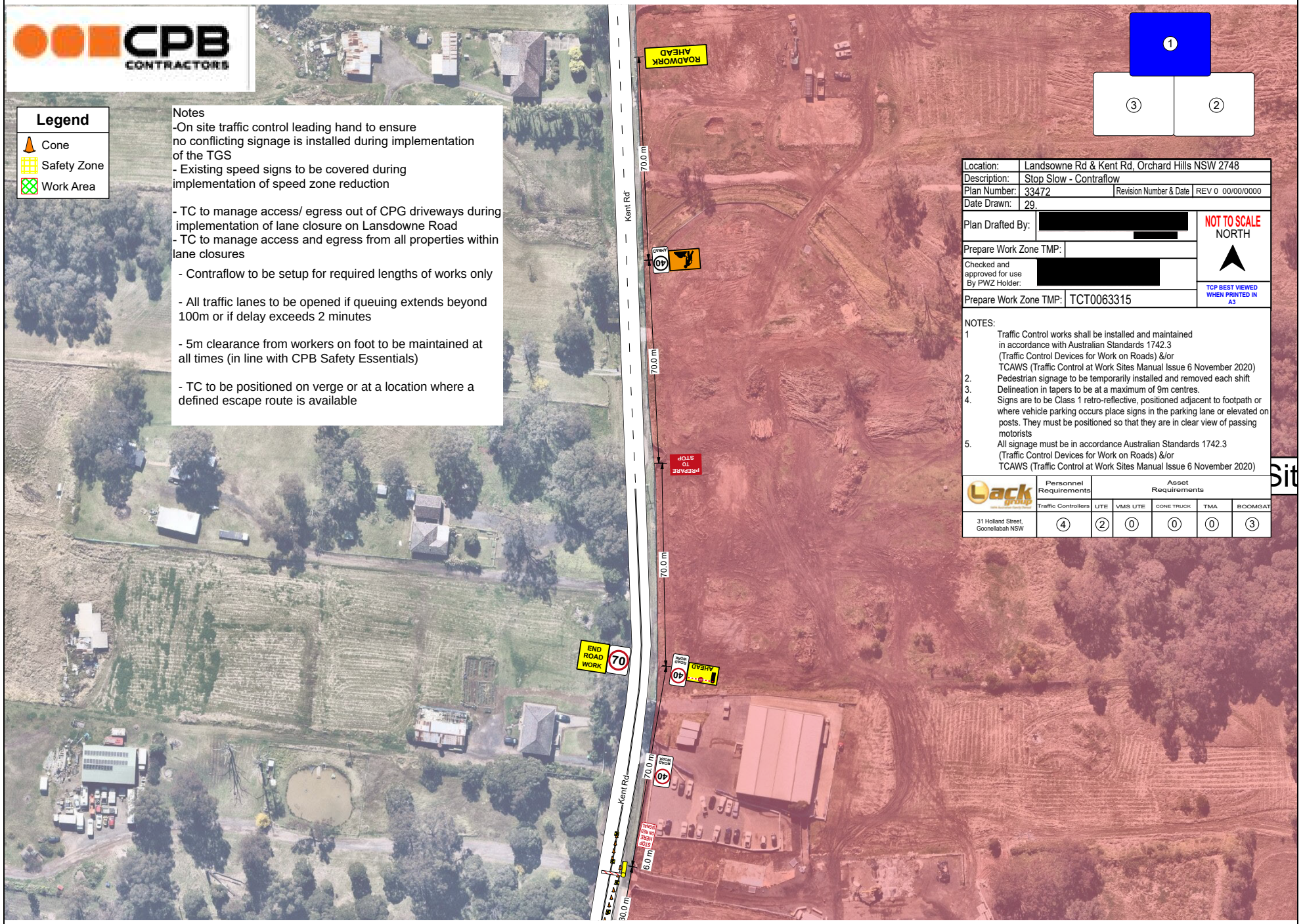
- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

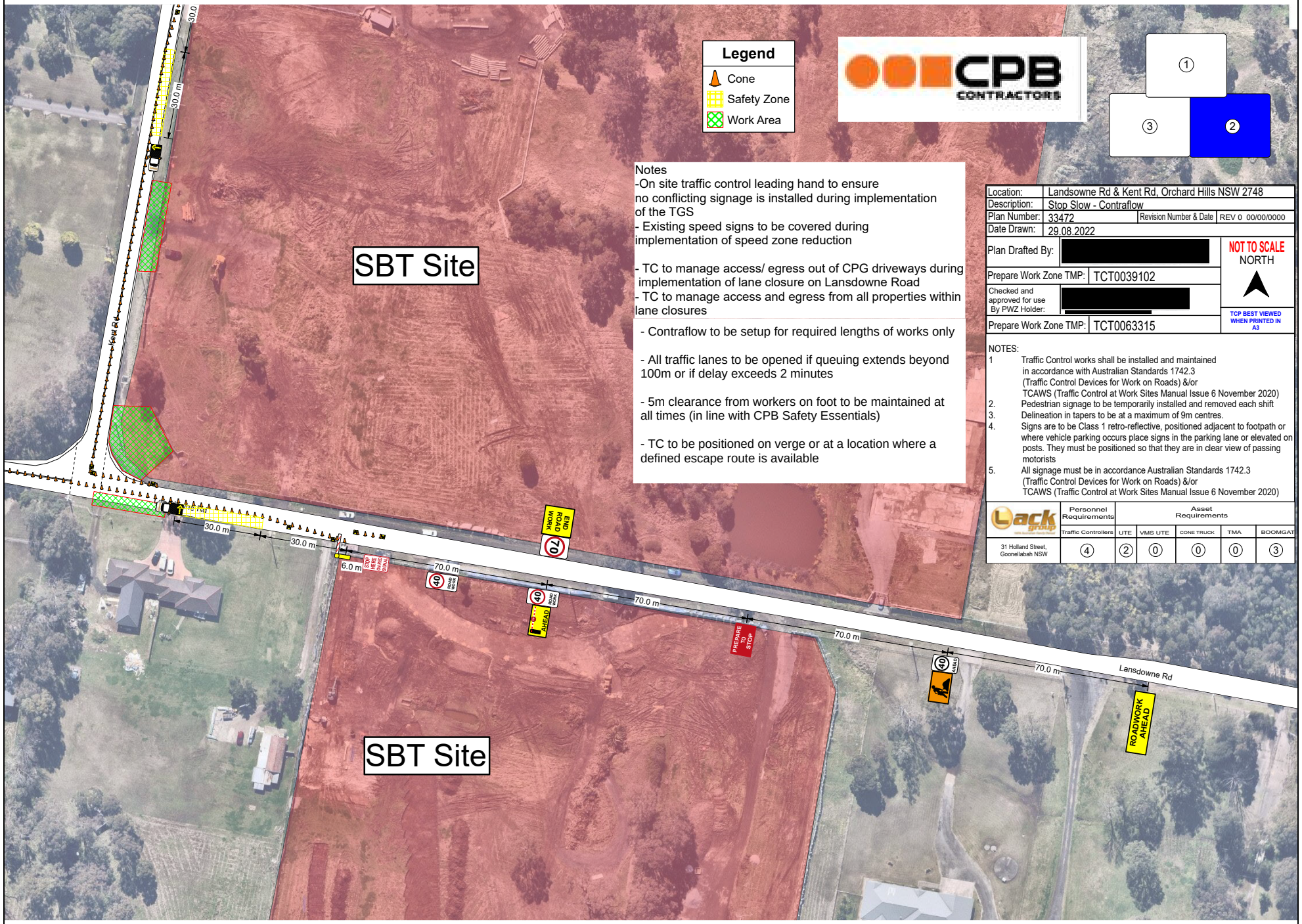
- TC to be positioned on verge or at a location where a defined escape route is available



Location:	Landsowne Rd & Kent Rd, Orchard Hills NSW 2748		
Description:	Stop Slow - Contraflow		
Plan Number:	33472	Revision Number & Date	REV 0 00/00/0000
Date Drawn:	29.		
Plan Drafted By:	[redacted]	NOT TO SCALE NORTH	
Prepare Work Zone TMP:			
Checked and approved for use By PWZ Holder:	[redacted]	TCP BEST VIEWED WHEN PRINTED IN A3	
Prepare Work Zone TMP:	TCT0063315		

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
3. Delineation in tapers to be at a maximum of 9m centres.
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	3



Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available

Location:	Landsowne Rd & Kent Rd, Orchard Hills NSW 2748		
Description:	Stop Slow - Contraflow		
Plan Number:	33472	Revision Number & Date	REV 0 00/00/0000
Date Drawn:	29.08.2022		
Plan Drafted By:	[redacted]	NOT TO SCALE NORTH	
Prepare Work Zone TMP:	TCT0039102		
Checked and approved for use By PWZ Holder:	[redacted]	TCP BEST VIEWED WHEN PRINTED IN A3	
Prepare Work Zone TMP:	TCT0063315		

NOTES:
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	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	3

CPB CONTRACTORS

Legend

- Cone
- Safety Zone
- Work Area

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
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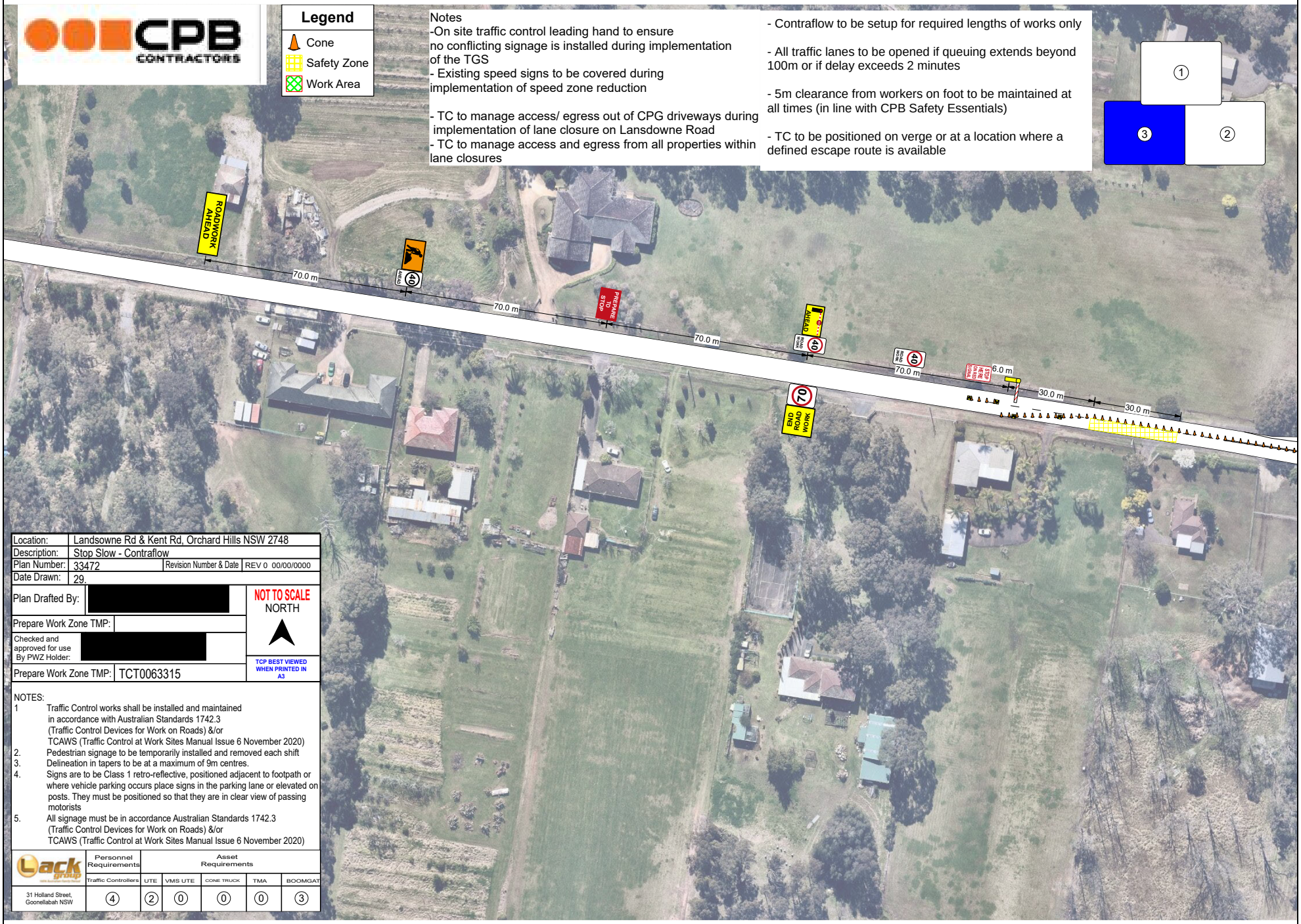
- TC to be positioned on verge or at a location where a defined escape route is available



Location:	Landsowne Rd & Kent Rd, Orchard Hills NSW 2748
Description:	Stop Slow - Contraflow
Plan Number:	33472
Revision Number & Date	REV 0 00/00/0000
Date Drawn:	29.
Plan Drafted By:	[redacted]
Prepare Work Zone TMP:	
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
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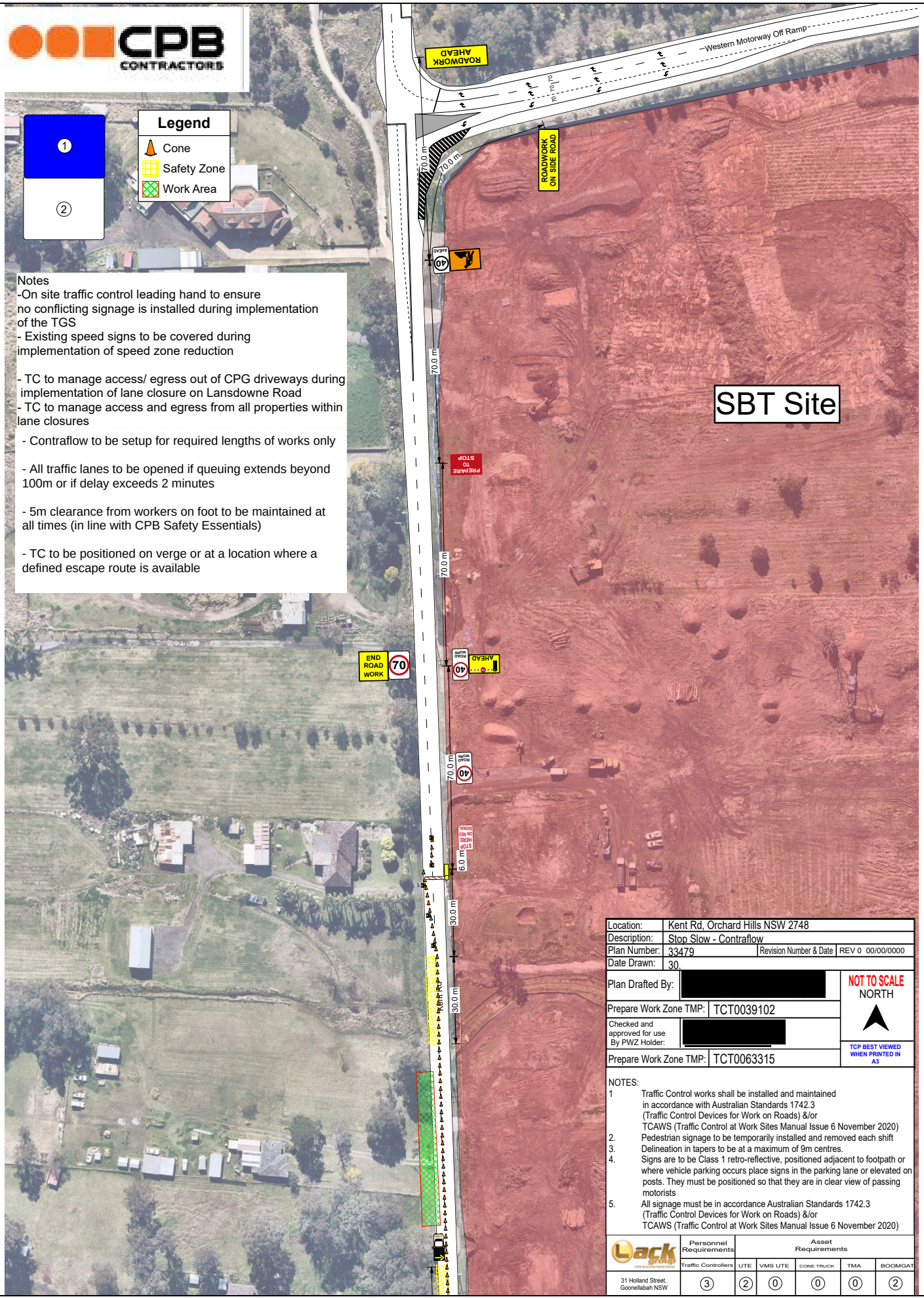
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	3

CPB CONTRACTORS



Notes
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- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available

Location:	Kent Rd, Orchard Hills NSW 2748
Description:	Stop Slow - Contraflow
Plan Number:	33479 — Revision Number & Date: REV 0 00/00/0000
Date Drawn:	30.
Plan Drafted By:	[redacted]
Prepare Work Zone TMP:	TCT0039102
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
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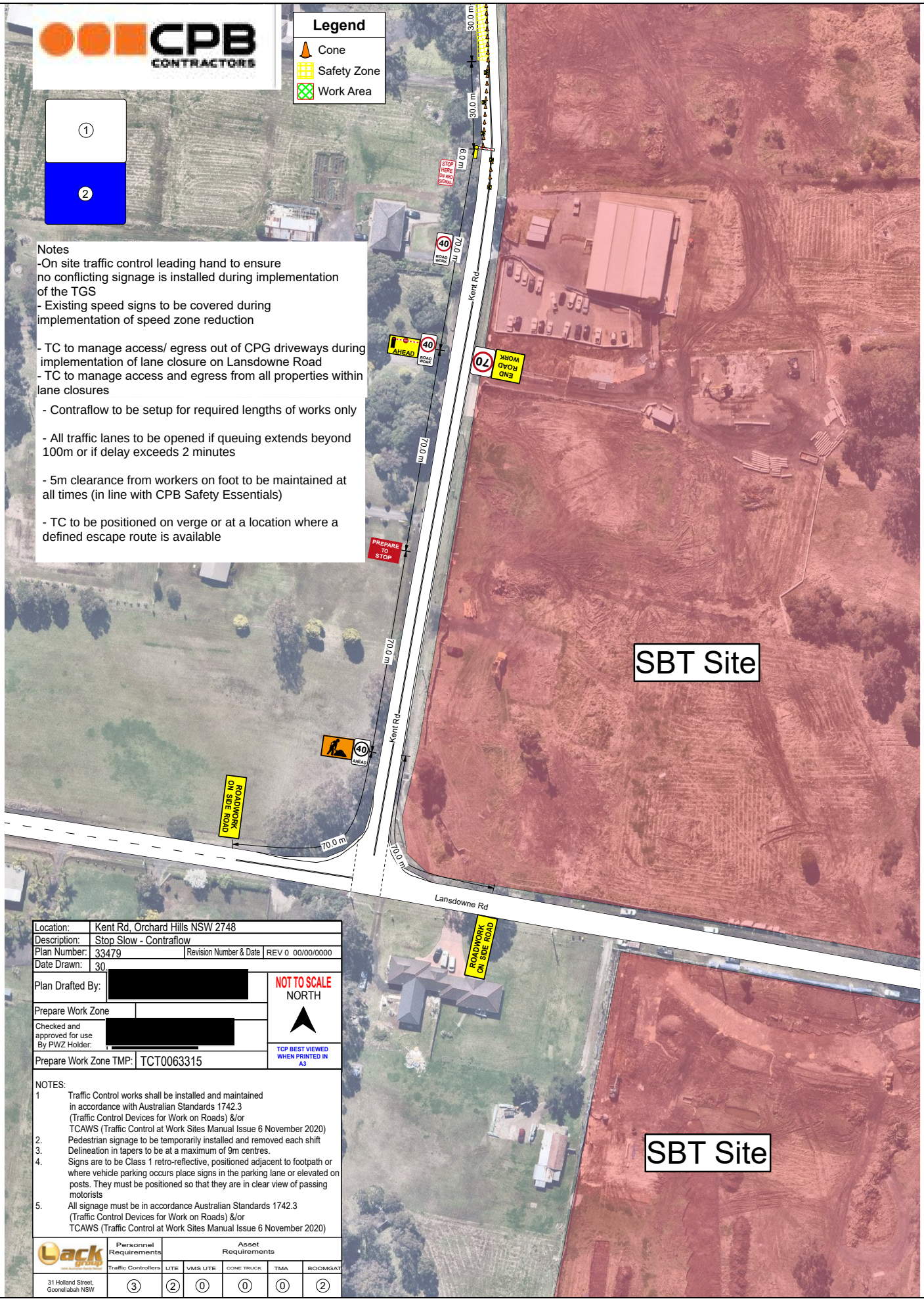
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

Lack group

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	3	2	0	0	0	2



Location:	Kent Rd, Orchard Hills NSW 2748
Description:	Stop Slow - Contraflow
Plan Number:	33479
Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30
Plan Drafted By:	[redacted]
Prepare Work Zone	
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
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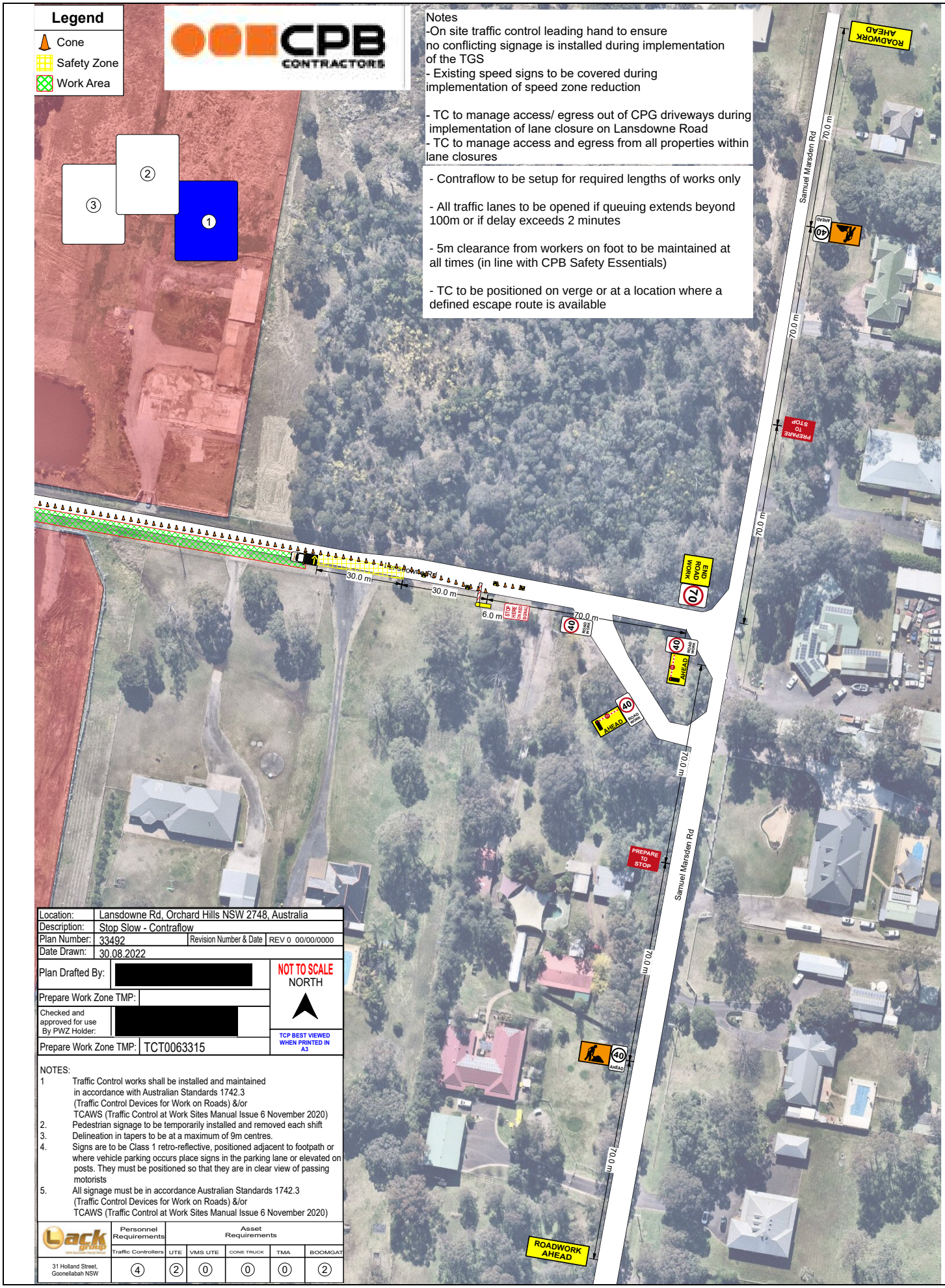
	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	3	2	0	0	0	2


Legend
Cone
Safety Zone
Work Area
CPB CONTRACTORS
Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
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- TC to be positioned on verge or at a location where a defined escape route is available
1
2
3
Lansdowne Rd
Samuel Marsden Rd
30.0 m
30.0 m
6.0 m
70.0 m
70.0 m
70.0 m
70.0 m
70.0 m
ROADWORK AHEAD
PREPARE TO STOP
END ROAD WORK
PREPARE TO STOP
ROADWORK AHEAD
Location: Lansdowne Rd, Orchard Hills NSW 2748, Australia
Description: Stop Slow - Contraflow
Plan Number: 33492
Revision Number & Date: REV 0 00/00/0000
Date Drawn: 30.08.2022
Plan Drafted By: [redacted]
NOT TO SCALE
NORTH
Prepare Work Zone TMP:
Checked and approved for use By PWZ Holder: [redacted]
Prepare Work Zone TMP: TCT0063315
TCP BEST VIEWED WHEN PRINTED IN A3
NOTES:
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Lack group
31 Holland Street, Goonellabah NSW
Personnel Requirements
Traffic Controllers 4
Asset Requirements
UTE 2
VMS UTE 0
CONE TRUCK 0
TMA 0
BOOMGAT 2

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
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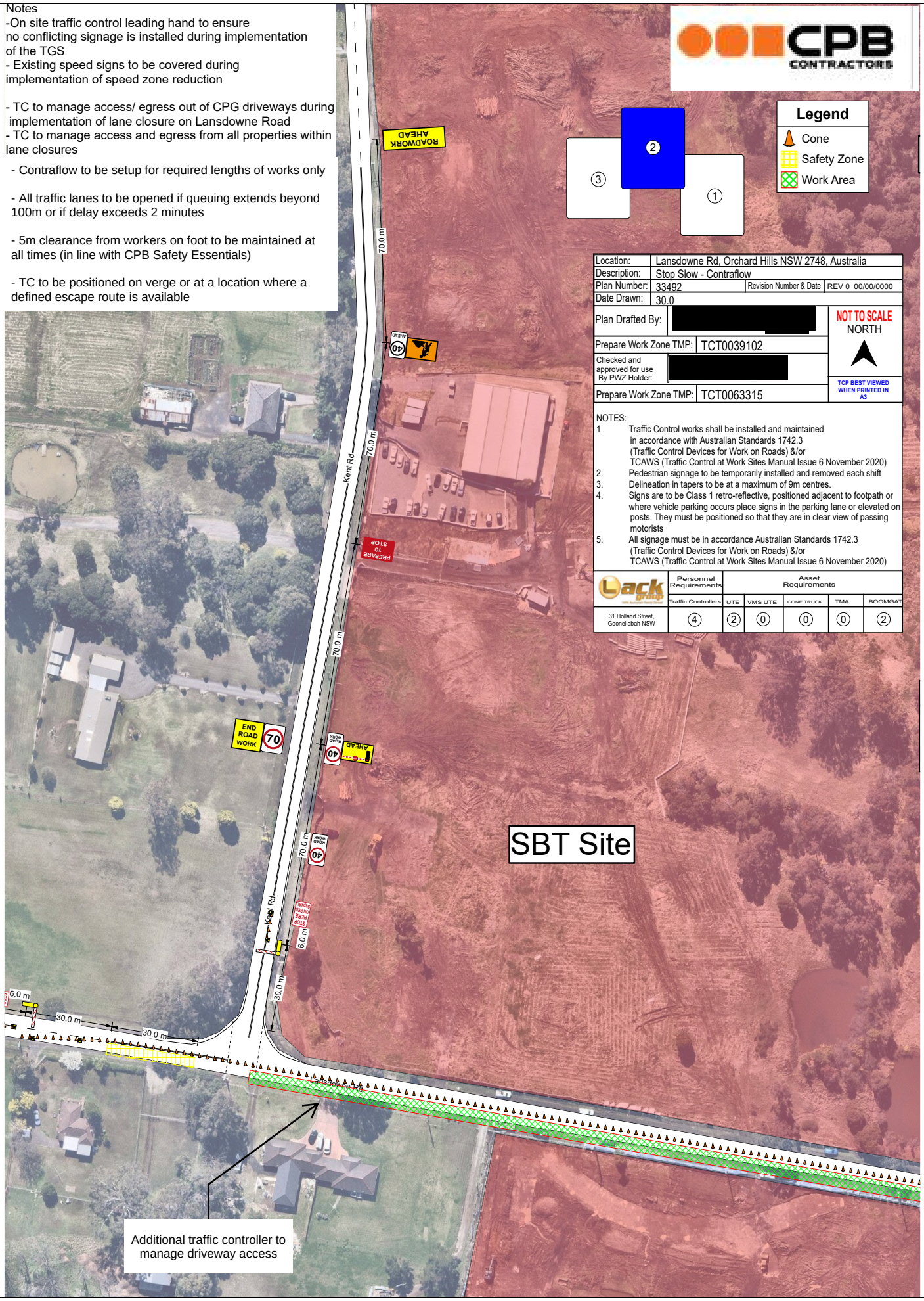
- TC to be positioned on verge or at a location where a defined escape route is available

CPB CONTRACTORS



Location:	Lansdowne Rd, Orchard Hills NSW 2748, Australia
Description:	Stop Slow - Contraflow
Plan Number:	33492
Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.0
Plan Drafted By:	[redacted]
Prepare Work Zone TMP:	TCT0039102
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
1 Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
3. Delineation in tapers to be at a maximum of 9m centres.
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	2

CPB CONTRACTORS

Legend

- Cone
- Safety Zone
- Work Area

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

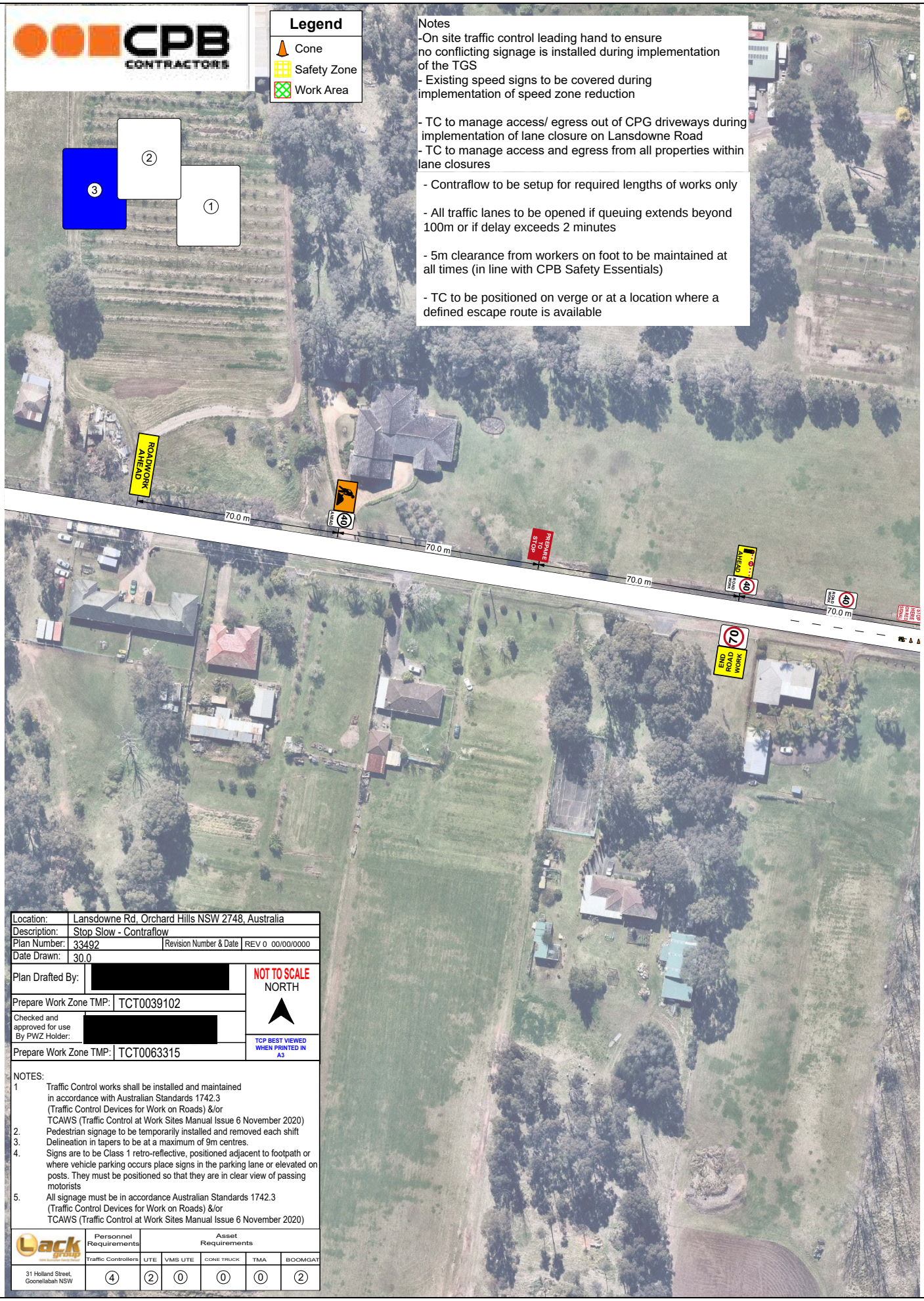
- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available



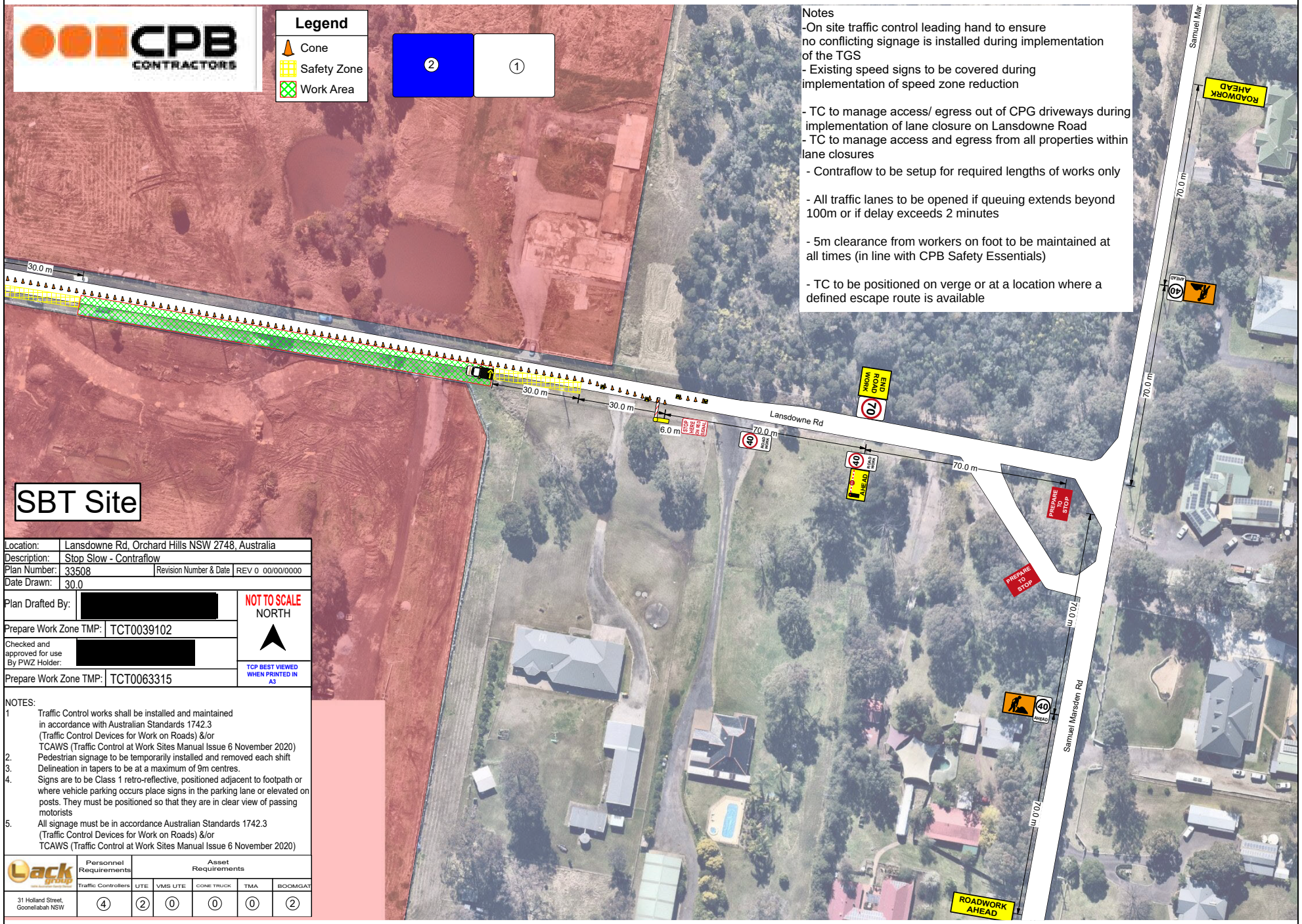
Location:	Lansdowne Rd, Orchard Hills NSW 2748, Australia
Description:	Stop Slow - Contraflow
Plan Number:	33492
Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.0
Plan Drafted By:	[redacted]
Prepare Work Zone TMP:	TCT0039102
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
3. Delineation in tapers to be at a maximum of 9m centres.
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

Lack group	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	2



Location:	Lansdowne Rd, Orchard Hills NSW 2748, Australia
Description:	Stop Slow - Contraflow
Plan Number:	33508
Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.0
Plan Drafted By:	[redacted]
Prepare Work Zone TMP:	TCT0039102
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
3. Delineation in tapers to be at a maximum of 9m centres.
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	2

CPB CONTRACTORS

Legend

- Cone
- Safety Zone
- Work Area

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available

Location:	Lansdowne Rd, Orchard Hills NSW 2748, Australia
Description:	Stop Slow - Contraflow
Plan Number:	33508
Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.08.2022
Plan Drafted By:	[redacted]
Prepare Work Zone TMP:	TCT0039102
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

NOT TO SCALE
NORTH

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
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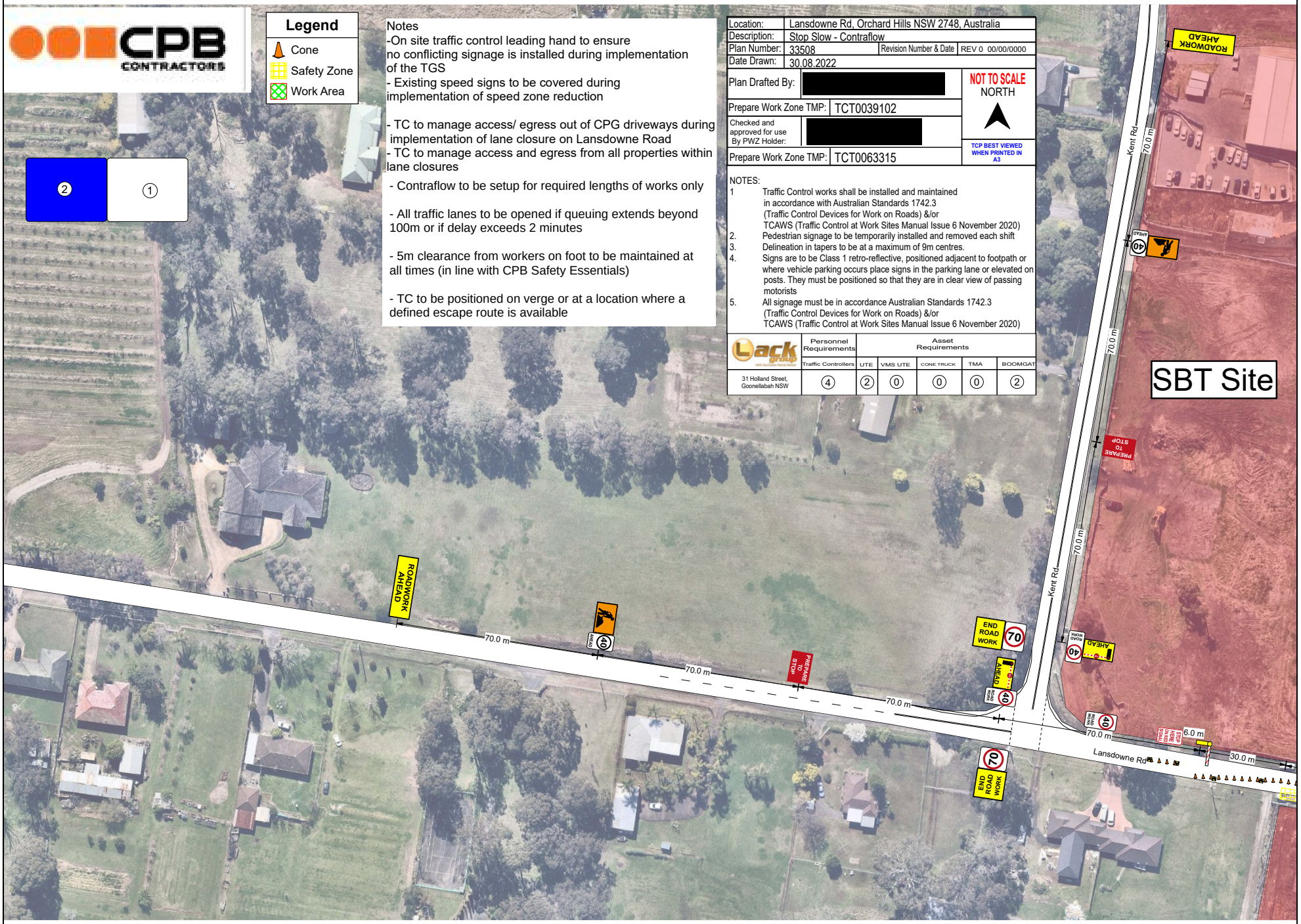
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

Lack group	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	4	2	0	0	0	2



CPB CONTRACTORS

Legend
- Cone
- Safety Zone
- Work Area

① ②

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures
- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available

- Coordination with M4 Smart Motorways required for installation of signs on off ramp

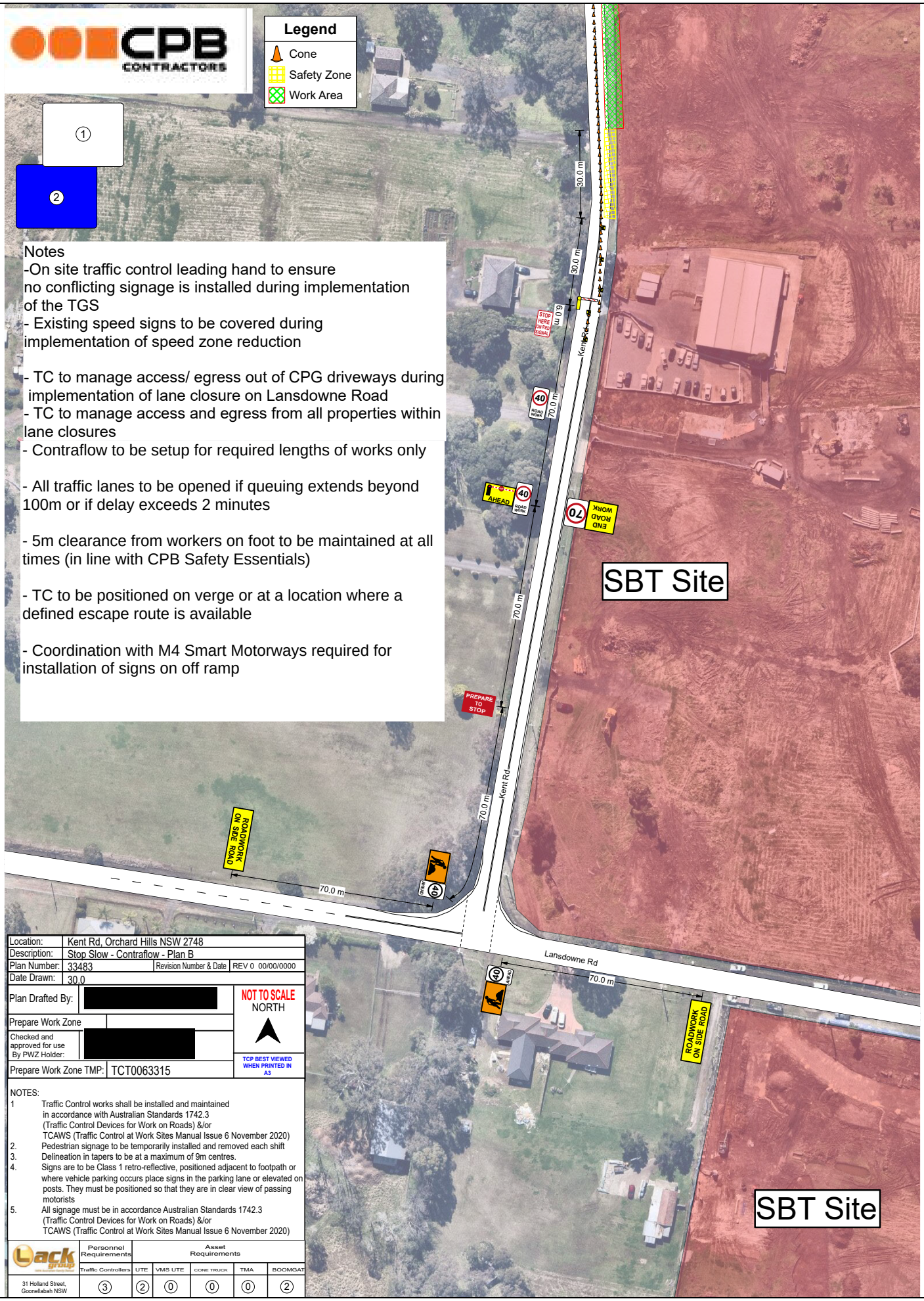
SBT Site

Location:	Kent Rd, Orchard Hills NSW 2748
Description:	Stop Slow - Contraflow - Plan B
Plan Number:	33483 — Revision Number & Date: REV 0 00/00/0000
Date Drawn:	30.
Plan Drafted By:	[redacted] — NOT TO SCALE, NORTH
Prepare Work Zone TMP:	TCT0039102
Checked and approved for use By PWZ Holder:	[redacted]
Prepare Work Zone TMP:	TCT0063315

TCP BEST VIEWED WHEN PRINTED IN A3

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
3. Delineation in tapers to be at a maximum of 9m centres.
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

Lack group	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	③	②	⓪	⓪	⓪	②



Location:	Kent Rd, Orchard Hills NSW 2748		
Description:	Stop Slow - Contraflow - Plan B		
Plan Number:	33483	Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.0		
Plan Drafted By:	[redacted]	NOT TO SCALE NORTH	
Prepare Work Zone			
Checked and approved for use By PWZ Holder:	[redacted]	TCP BEST VIEWED WHEN PRINTED IN A3	
Prepare Work Zone TMP:	TCT0063315		

NOTES:
1 Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
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5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	3	2	0	0	0	2

CPB CONTRACTORS

Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

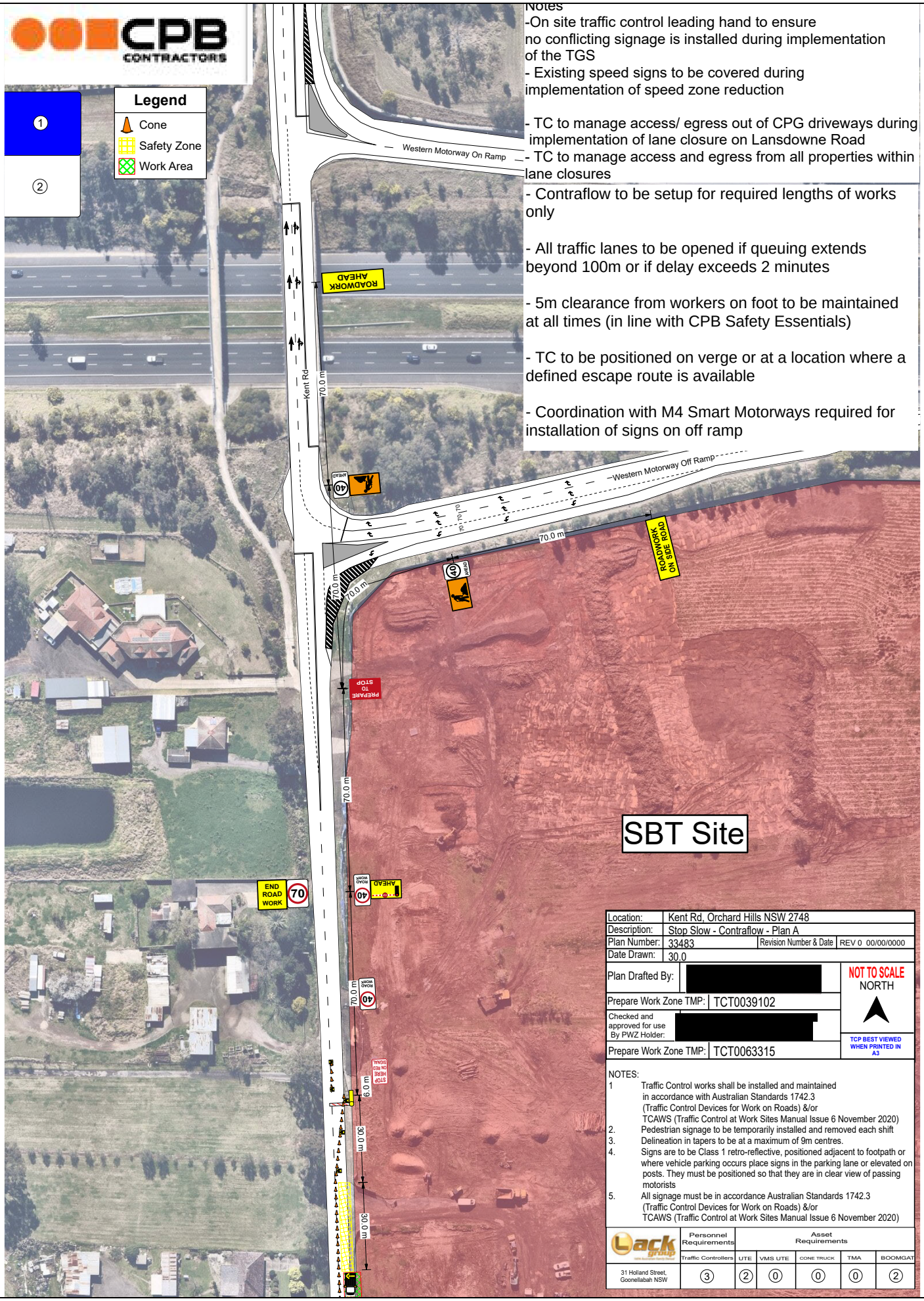
- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available

- Coordination with M4 Smart Motorways required for installation of signs on off ramp



Location:	Kent Rd, Orchard Hills NSW 2748		
Description:	Stop Slow - Contraflow - Plan A		
Plan Number:	33483	Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.0		
Plan Drafted By:	[redacted]	NOT TO SCALE NORTH	
Prepare Work Zone TMP:	TCT0039102		
Checked and approved for use By PWZ Holder:	[redacted]	TCP BEST VIEWED WHEN PRINTED IN A3	
Prepare Work Zone TMP:	TCT0063315		

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
2. Pedestrian signage to be temporarily installed and removed each shift
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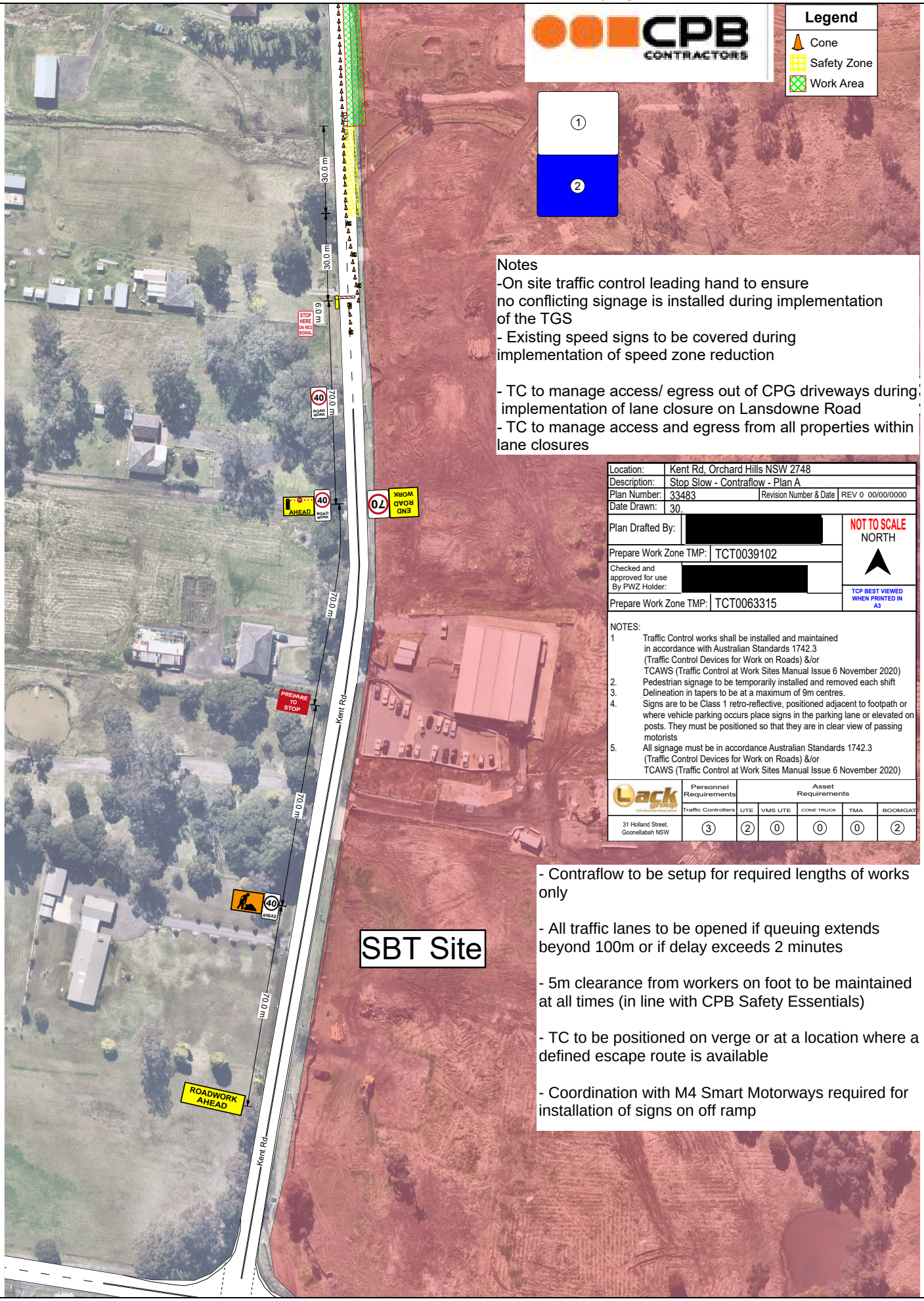
4. Signs are to be Class 1 retro-reflective, positioned adjacent to footpath or where vehicle parking occurs place signs in the parking lane or elevated on posts. They must be positioned so that they are in clear view of passing motorists
5. All signage must be in accordance Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)

	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	③	②	⓪	⓪	⓪	②



Notes
-On site traffic control leading hand to ensure no conflicting signage is installed during implementation of the TGS
- Existing speed signs to be covered during implementation of speed zone reduction

- TC to manage access/ egress out of CPG driveways during implementation of lane closure on Lansdowne Road
- TC to manage access and egress from all properties within lane closures

Location:	Kent Rd, Orchard Hills NSW 2748		
Description:	Stop Slow - Contraflow - Plan A		
Plan Number:	33483	Revision Number & Date	REV 0 00/00/0000
Date Drawn:	30.		
Plan Drafted By:	[redacted]	NOT TO SCALE NORTH	
Prepare Work Zone TMP:	TCT0039102		
Checked and approved for use By PWZ Holder:	[redacted]	TCP BEST VIEWED WHEN PRINTED IN A3	
Prepare Work Zone TMP:	TCT0063315		

NOTES:
1. Traffic Control works shall be installed and maintained in accordance with Australian Standards 1742.3 (Traffic Control Devices for Work on Roads) &/or TCAWS (Traffic Control at Work Sites Manual Issue 6 November 2020)
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	Personnel Requirements	Asset Requirements				
	Traffic Controllers	UTE	VMS UTE	CONE TRUCK	TMA	BOOMGAT
31 Holland Street, Goonellabah NSW	3	2	0	0	0	2

- Contraflow to be setup for required lengths of works only

- All traffic lanes to be opened if queuing extends beyond 100m or if delay exceeds 2 minutes

- 5m clearance from workers on foot to be maintained at all times (in line with CPB Safety Essentials)

- TC to be positioned on verge or at a location where a defined escape route is available

- Coordination with M4 Smart Motorways required for installation of signs on off ramp

Appendix 6 Road Safety Audit

Orchard Hills Traffic Staging Roadworks (Construction) Road Safety Audit

Prepared for:

CPB Contractors and Ghella Joint Venture (CPG JV)

11 August 2022

The Transport Planning Partnership

Orchard Hills Traffic Staging

Roadworks (Construction) Road Safety Audit

Client: CPB Contractors and Ghella Joint Venture (CPG JV)

Version: V01

Date: 11 August 2022

TTPP Reference: 22075

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	10/08/2022	Santi Botross	Stephen Read	Stephen Read	

Table of Contents

Tables

APPENDICES

1 Road Safety Audit Summary

Audited project:	Orchard Hills Traffic Staging
Client:	CPB Contractors and Ghella Joint Venture
Project manager:	[redacted]
Email address:	[redacted]
Telephone:	[redacted]
Audit Team:	Stephen Read (level 3 lead road safety auditor) Santi Botross (level 3 road safety auditor)
Audit type:	Roadworks (Construction)
Commencement meeting:	N/A
Audit date:	10 August 2022
Completion meeting:	Not required

2 Introduction

2.1 Background

This report has been prepared on behalf of CPB Contractors and Ghella Joint Venture (CPG JV) to present road safety audit findings that have been identified for the traffic guidance schemes as part of the Sydney Metro Western Sydney Airport construction.

This audit in particular addresses the traffic management arrangements proposed for the Orchard Hills construction site.

2.2 Audit Objective

The objective of this Audit was to identify and report on aspects of the design that may result in unnecessary or unreasonable hazards for all road users.

2.3 Procedures and Reference Material

The procedures used are described in the following guidelines:

- Roads and Maritime Services' 2011 Guidelines for Road Safety Audit Practices
- Austroads Guide to Road Safety 2019: Part 6 Managing Road Safety Audits
- Austroads Guide to Road Safety 2019: Part 6A Implementing Road Safety Audits.

Austroads checklist was used by the audit team as a reference in this road safety audit. Key elements examined included:

- general topics – drainage, type and degree of access to development
- design issues
- intersections
- lighting, signs and delineation
- physical objects
- environmental constraints
- other matters including over size vehicles.

2.4 Audit Team

The RSA was carried out by the following team:

- [redacted] (RSA-02-0652) – level 3 road safety auditor (lead auditor)
- [redacted] (RSA-02-1016) – level 3 road safety auditor (team member)

Stephen and Santi are registered road safety auditors with the NSW Centre for Road Safety and are experienced in traffic engineering and design/ inspection of traffic management schemes.

3 Road Safety Audit Program

3.1 Commencement Meeting

A formal meeting was not held.

3.2 Site and Field Audit

The road safety audit that has been undertaken is a desktop audit of the plans contained in Appendix A. Thus, a site inspection was not carried out as part of this audit.

3.3 Completion Meeting

Not required.

4 Road Safety Audit Findings

4.1 Introduction

Table 4.1 provides specific details of the audit findings and a risk rating as high, medium or low. The risk ratings have been based on the risk matrix presented in Table 4.1, which has been adopted from the standard Austroads Risk Matrix.

Table 4.1: Risk Matrix

Likelihood / Severity	Highly probable	Occasional	Improbable
Major	High	High	Medium
Moderate	High	Medium	Low
Minor	Medium	Low	Low

The terms in Table 4.1 are described below.

Likelihood:

- Highly probable: It is likely that more than one crash of this type could occur within a five-year period.
- Occasional: It is likely that less than one crash of this type could occur within a five-year period.
- Improbable: Less than one crash of this type could occur within a 10-year period.

Severity:

- Major: The crash is likely to result in a fatality or serious injuries

  For example, high/medium speed vehicle collision, high/medium speed collision with a fixed object, pedestrian struck at high speed, and cyclist hit by car.
- Moderate: The crash is likely to result in minor injuries or large scale of property damage

  For example, some slow speed vehicle collisions, cyclist falls, and rear end crashes.
- Minor: The crash is likely to result in minor property damage or many near miss crash events

  For example, some slow speed collisions, pedestrian walks into object (no head injury), and car reverses into post.

Priority:

- High: Very important, and needs to be addressed urgently.
- Medium: Important, and needs to be addressed as soon as possible.
- Low: Needs to be considered as part of regular maintenance/planning program.

4.2 Responding to the Audit Report

As set out in the road safety audit guidelines, the responsibility for the road rests with the project manager, not with the auditor. The project manager is under no obligation to accept the audit findings. Neither is it the role of the auditor to agree to, or approve the project manager's responses to the audit.

The audit provides the opportunity to highlight potential road safety problems and have them formally considered by the project manager in conjunction with all other project considerations.

4.3 Road Safety Audit Findings

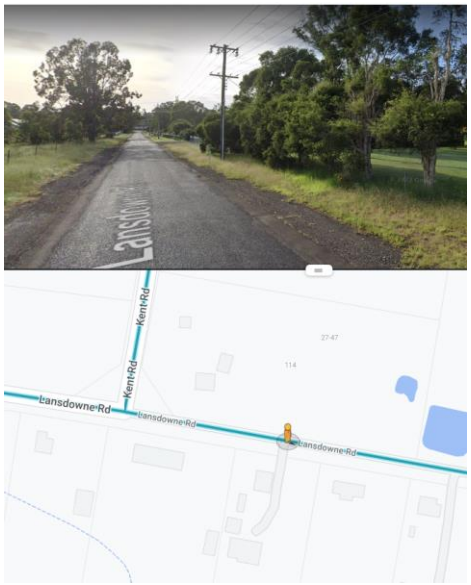
The audit findings are documented in Table 4.2 which provides:

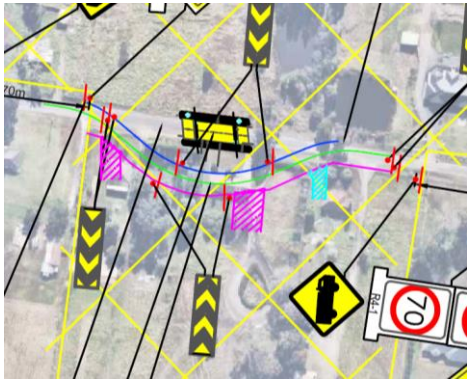
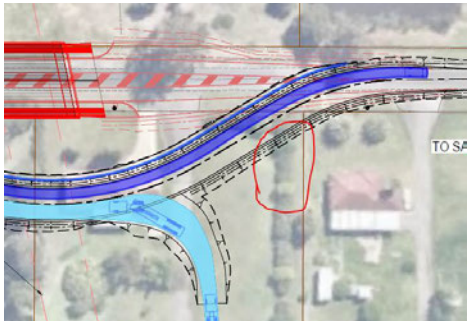
- specific details of the road safety issues identified during the audit
- a risk level rating for each of the road safety audit findings.

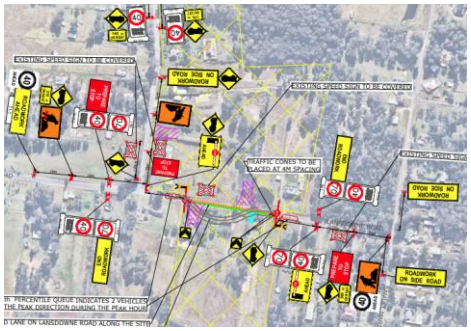
It should be acknowledged that positive attributes of the audited road section have not been discussed. Deficiencies that do not cause a safety problem are also not listed.

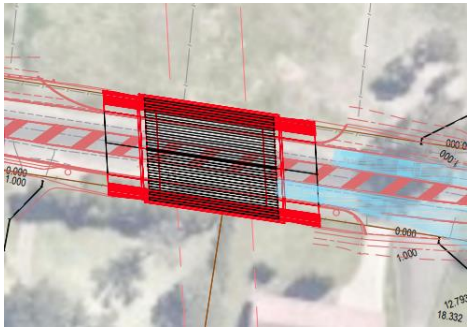
In-line with Roads and Maritime Services' best practice recommendations have not been included in the road safety audit findings.

Table 4.2: Road Safety Audit Findings

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
1	Lansdowne Road east of Kent Road	As shown on Google Streetview, there are electricity poles on the south side of the carriageway where the side-track is proposed to be located. In stage 2 the poles may be close to the carriageway and an errant vehicle could collide with the electricity poles which may result in injury or vehicle damage if there is a lack of adequate protection.		Improbable	Moderate	Low	Poles will be relocated prior to opening of side track.

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
2	Lansdowne Road	Sight distance for a driver exiting the construction vehicle driveways has not been assessed. It is proposed to locate three access driveways along the side-track section where there are horizonal curves in the roadway and large trees may impede visibility to oncoming vehicles travelling on Lansdowne Road. A heavy vehicle driver exiting the site would not be able to adequately judge a safe gap in the main traffic stream which could lead to a rear-end collision or near-miss with an oncoming vehicle.	 	Occasional	Minor	Low	Sight distances have been assessed as part of the design process for side track. Adequate site distance will be available for all access gates installed in stage 2 and 3 of works. Snippet below from design report 
3	Lansdowne Road	Truck warning signs are shown as “on left” on the western approach and “on right” on the eastern approach. However, there would be truck movements on both sides of the road as shown by the location of construction vehicle access driveways.				Note only	To avoid the use of additional signs to separately indicate turning trucks at each access on the left and right side of the road, the supplementary distance plates for the second access point on Lansdown Road have been removed,

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
							given the proximity of access/egress gates.
4	Kent Road	There would be two (2) access driveways on Kent Road to be used by heavy vehicles, however, a swept path analysis has not been provided at such locations.				Note only	Noted. Driveways on Kent Road were designed by TfNSW (Easing Sydney's Congestion) and were approved for construction prior to award of contract to CPG. These driveways are approved in the site establishment CTMP. Notwithstanding the above, driveways are 15.0m to 18.0m wide and will have adequate width for all HV movements.
5	Kent Road	While it is acknowledged that the signs provided are probably in accordance with the relevant guidelines. As there are multiple driveways and hold points there appears to be an excessive number of signs in a short section of roads. The large number of signs could reduce the effectiveness of the signs rather than focusing on the work zone speed limits and the location of the driveways.				Note only	TGSs have been designed in accordance with TCaWS. Although there appears to be many signs on the plan, the signs are actually spread out over a distance of 750m on Kent Road and 690m on Lansdowne Road.

Item No.	Location	Descriptions of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
6	Lansdowne Road	There are little details on how the bridge will be designed. Bridge abutments and barriers would need to be provided to the appropriate standard. It assumed this would be subject to a separate road safety audit and is not considered part of the scope of this audit.				Note only	Lansdowne Road bridge has been designed as a permanent structure and has gone through the formal approval process for permanent structures. All abutments, bridge supports, barriers, etc have been designed to appropriate standards.

5 Concluding Statement

The findings and opinions in the report are based on the examination of the specific road and environs, and might not address all concerns existing at the time of the audit.

The auditors have endeavoured to identify features of the road that could be modified in order to improve safety, although it must be recognised that safety cannot be guaranteed since no road can be regarded as absolutely safe.

While every effort has been made to ensure the accuracy of this report, it is made available strictly on the basis that anyone relying on it does so at their own risk without any liability to the Auditors.

[redacted]
Level 3 Lead Road Safety Auditor
The Transport Planning Partnership

[redacted]
Level 3 Road Safety Auditor
The Transport Planning Partnership

Appendix A

Traffic Guidance Schemes

The Transport Planning Partnership
Suite 402 Level 4, 22 Atchison Street
St Leonards NSW 2065

P.O. Box 237
St Leonards NSW 1590

02 8437 7800

info@ttpp.net.au

www.ttpp.net.au

Appendix 7 Inspection Checklists

E.4 Shift / Daily TTM inspection checklist

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

Completed by:					
Name:		Signature:			
TMP Reference:		TGS Reference:			
Date:		Time/s	*Inspection 1*	*Inspection 2*	*Inspection 3*
			00-00	00-00	00-00

Drive through TGS inspection		*Inspection 1*	*Inspection 2*	*Inspection 3*
Have any adjustments been made to the approved TGS?		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, provide details:	Are changes within tolerances? ***If no, TGS must be reviewed by a PWZTMP***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
	Have changes been approved? ***If no, TGS must be approved***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:				
Have all signs and devices been installed in accordance with approved TGS? ***If no, provide detail of action taken***		☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:				

Drive through TGS inspection	*Inspection 1*	*Inspection 2*	*Inspection 3*
Are PTCD positioned as prescribed in TGS? ***If no, provide detail of action taken***	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A
Comments or details of action taken:			
Are manual traffic controllers clear of travel lane, have suitable escape route? ***If no, provide detail and reposition manual traffic controllers***	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A
Comments or details of action taken:			
Are sign and devices in good condition, clearly visible to road users? ***If no, provide detail of action taken***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			
Are all signs mounted level and suitably clear of travel lanes? ***If no, provide detail of action taken***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			
Are conflicting or non-applicable signs covered or removed? ***If no, provide detail and remove or cover signs***	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A
Comments or details of action taken:			

Drive through TGS inspection	*Inspection 1*	*Inspection 2*	*Inspection 3*
Is temporary delineation installed as prescribed i.e. straight line forming taper? ***If no provide details and rectify delineation***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			
Have site conditions changed due to shade, park vehicles, glare etc. ***If yes provide details and note if action is required***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			
Are registered trailers i.e. VMS / light towers; suitably clear of travel lanes and delineated? ***If no provide details and rectify location***	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A
Comments or details of action taken:			
Are temporary speed zones operating as prescribed? ***If no provide details and discuss with work supervisor***	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A
Comments or details of action taken:			
Are workers on foot / plant clearances been applied / observed? ***If no provide details and implement controls to rectify***	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A	☐ Yes ☐ No ☐ N/A
Comments or details of action taken:			

Post drive through confirmation	*Inspection 1*	*Inspection 2*	*Inspection 3*
Is TGS valid for the site activity and operating safely as intended? ***If no provide details and implement controls to rectify***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			
Is TGS is appropriate for the current traffic conditions? ***If no provide details and implement controls to rectify***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			
Have potential hazards identified in TGS been addressed? i.e. end-of-queue management ***If no provide details of additional hazards and controls required***	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Comments or details of action taken:			

Additional comments:

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E.5 Post completion inspection checklist

Completed by:			
Name:		Road name/Staging Plan number:	
Signature:		Date / time:	
ITCP or PWZTMP card number			

Drive through post completed inspection		
Item		**Comments / Action**
Have all work activities been completed?	☐ Yes ☐ No	
Has all plant and equipment been removed?	☐ Yes ☐ No	
Have all TTM signs and devices been removed?	☐ Yes ☐ No	
Has all TTM linemarking been obliterated?	☐ Yes ☐ No	
Have existing permanent speed limits been reinstated?	☐ Yes ☐ No	
Have all TTM site hazards been removed?	☐ Yes ☐ No	
Other	☐ Yes ☐ No	

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

Additional comments:

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E.3 Weekly TTM inspection checklist

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

Completed by:				
Name:		Signature:		
TMP Reference:		TGS Reference:		
Date:		Inspection type	☐ Pre-opening	☐ Weekly
Desktop review				
Is a copy of the location TMP and relevant TGS available? ***If no inspection must not be undertaken until documents are obtained***			☐ Yes ☐ No	
Details of TMP and TGS:				
Are the location TMP and relevant TGS approved? ***If no, work must be stopped until documents are approved***			☐ Yes ☐ No	
Comments or details of action taken:				
Site Inspection				
Inspection completed:	☐During the day ☐During the night			
Signs and devices positioned as prescribed and commanding attention? ***If no provide details and rectify signs***			☐ Yes ☐ No	
Comments or details of action taken:				

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

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

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

Additional comments:

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Appendix 8 Compliance Tables

Table 9: Ministerial Conditions of Approval

MCoA #	Requirement	Where addressed
E103	Construction Traffic Management Plans (CTMPs) must be prepared in accordance with the Construction Traffic Management Framework. A copy of the CTMPs must be submitted to the Planning Secretary for information before the commencement of any construction in the area identified and managed within the relevant CTMP	This plan and section 1.2
E104	The location of all Heavy Vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction	Section 7
E105	Local roads proposed to be used by Heavy Vehicles to directly access ancillary facilities/construction sites that are not identified in the documents listed in Condition A1 must be approved by the Planning Secretary and be included in the CTMP	Section 3.4
E106	All requests to the Planning Secretary for approval to use local roads under Condition E105 above must include the following: a) A swept path analysis b) Demonstration that the use of local roads by Heavy Vehicles for the CSSI will not compromise the safety of pedestrians and cyclists of the safety of two way traffic flow on two way roadways c) Details as the date of completion of the road dilapidation surveys for the subject local roads and d) Measures that will be implemented to avoid where practicable the sue of local roads past schools, aged care facilities and child care facilities during their peak operation times and Written advice from an appropriately qualified professional on the suitability of the proposed Heavy Vehicle route which takes into consideration items a) to d) of this condition	Not applicable to this CTMP as all roads are as per the EIS.
E107	Before any local road is used by a Heavy Vehicle for the purposes of construction of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the Relevant Road Authority(s) within three (3) weeks of completion of the survey and at no later than one (1) month before the road being used by Heavy Vehicles associated with the construction of the CSSI	Not applicable to this CTMP as all roads are as per the EIS.

MCoA #	Requirement	Where addressed
E108	If damage to roads occurs as a result of the construction of the CSSI, the Proponent must either (at the Relevant Road Authority's discretion): a) Compensate the Relevant road Authority for the damage so caused or Rectify the damage to restore the road to at least the condition it was in pre-work as identified in the Road Dilapidation Report	Section 7.2
E109	Vehicles associated with the project workforce (including light vehicles and Heavy Vehicles) must be managed to: a) Minimise parking on public roads	Sections 3.3 , 7
	b) Minimise idling and queuing on state and regional roads	Section 7
	c) Not carry out marshalling of construction vehicles near sensitive land use(s)	Section 7
	d) Not block or disrupt access across pedestrian or shared use paths at any time unless alternative access is provided and	Sections 4.4.3, 4.4.4, 5.6.3, 5.6.4, 6.6.3 and 6.6.4
	e) Ensure spoil haulage vehicle adhere to the nominated haulage routes identified in the CTMP	Section 7.1
E110	Access to all utilities and properties must be maintained during works unless otherwise agreed with the relevant utility owner, landowner or occupier	Sections 4.4.5, 5.6.5 and 6.6.5
E111	The proponent must maintain access to properties during the entirety of the works unless an alternative access is agreed in writing with the landowner(s) whose access is impacted by the CSSI works	Sections 4.4.5, 5.6.5 and 6.6.5
E112	Where construction of the CSSI restricts a property's access to a public road, the Proponent must, until their primary access is reinstated, provide the property, with temporary alternate access to an agreed road decided through construction with the landowner, at no cost to the property landowner, unless agreed with the landowner	Sections 4.4.5, 5.6.5 and 6.6.5
E113	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless agreed by the landowner or occupier. Property access must be reinstated within one (1) month of the work that physically affected the access is completed or in any other timeframe agreed with the landowner or occupier	Sections 4.4.5, 5.6.5 and 6.6.5
E114	During construction, all reasonably practicable measures must be implemented to maintain pedestrian, cyclist and vehicular access to, and parking in the vicinity of businesses and affected properties. Disruptions are to be avoided, and	Sections 4.4.3, 4.4.4, 4.4.5, 5.6.3, 5.6.4, 5.6.5, 6.6.2,

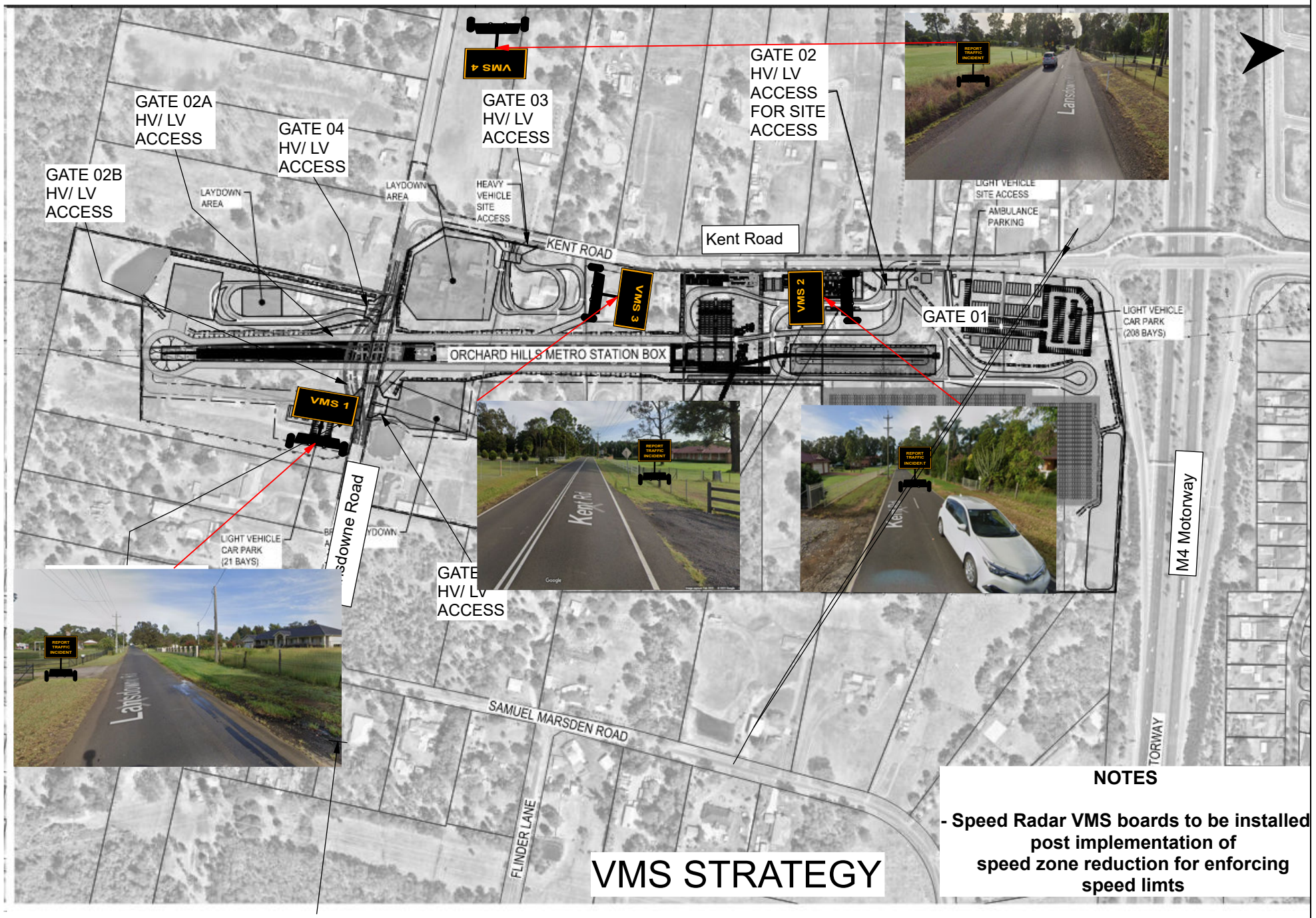
MCoA #	Requirement	Where addressed
	where avoidance is not possible, minimised. Where disruption cannot be avoided, alternate pedestrian, cyclist and vehicular access, and parking arrangements must be developed in consultation with affected businesses and landowners and implemented before the disruption. Adequate signage and directions to businesses must be provided before, and for the duration of any disruption	6.6.3, 6.6.4 and 6.6.5
E115	Safe pedestrian and cyclist access must be maintained around the St Marys construction site during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, a proximate alternate route which complies with the relevant standards, must be provided and signposted before the restriction or removal of the impacted access	Not applicable to this CTMP
E116	A Traffic and Transport Liaison Group(s) must be established in accordance with the Construction Traffic Management Framework to inform the development of the CTMP	Section 8.3.1
E117	Supplementary analysis and modelling as required by TfNSW and/ or the Traffic and Transport Liaison Group(s) must be undertaken to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations, including changes to and the management of pedestrian, bicycle and public transport networks, public transport services and pedestrian and cyclist movements. Revised traffic management measures must be incorporated into the CTMP	Section 8.3.1

Table 10: Revised Environmental Management Measures

REMM#	Requirement	Where addressed
T1	Construction Traffic Management Plans would be prepared in accordance with the Construction Traffic Management Framework	This Plan
T2	The Construction Traffic Management Plan for St Marys would be developed in consultation with the Traffic and Transport Liaison Group to ensure existing transport interchange infrastructure continues to operate effectively within the St Marys station precinct	Not applicable to this CTMP
T3	Coordination with Western Sydney Airport and Transport for NSW would be undertaken through the Traffic and Transport Liaison Group to manage potential cumulative construction traffic impacts with M12 Motorway and Elizabeth Drive	Section 8.3.1
T4	Road Safety Audits would be carried out to address vehicular access and egress, and pedestrian, cyclists and	Section 8.1

REMM#	Requirement	Where addressed
	public transport safety. Road Safety Audits would be carried out as per the guidelines outlined in Section 10 of the Construction Traffic Management Framework.	
T5	Maintain access for pedestrians and cyclists around construction sites as per the guidelines outlined in the Construction Traffic Management Framework. Appropriate signage and line marking would be provided to guide pedestrians and cyclists past construction sites and on the surrounding network to allow access be maintained	Sections 4.4.3, 4.4.4, 5.6.3, 5.6.4, 6.6.3 and 6.6.4
T6	Access for construction vehicles to be planned as per the guidelines outlined in the Construction Traffic Management Framework. Construction site traffic would be managed to minimise movements during peak periods. Vehicle access to and from construction sites would be managed to maintain pedestrian, cyclists and motorist safety	Section 3.4
T7	Temporary relocation of bus stops and the bus layovers at the Station Street car park in St Marys would be implemented prior to the commencement of construction works that impacts on the existing bus facilities. The temporary relocation of bus stops and the bus layover at St Marys would be carried out in consultation with the Transport for NSW, Penrith City Council and bus operators. Wayfinding and customer information would guide customers to temporary bus stop locations.	Not applicable to this CTMP
T8	Transport for NSW would be consulted to discuss opportunities for their delivery of intersection upgrades at Mamre Road/ M4 Western Motorway on and off ramps prior to the peak year of construction	Not applicable to this CTMP
T9	A construction worker car parking strategy for St Marys would be prepared in consultation with Penrith City Council and Transport for NSW prior to the commencement of construction. The strategy would seek to: • Minimise overall demand for construction worker car parking through initiatives such as use of other project construction worksites in combination with shuttle buses, carpooling and encouraging the use of public transport • Minimise potential use of on street ca parking by construction workers The construction worker car parking strategy would be implemented throughout construction	Not applicable to this CTMP

Appendix 9 VMS Strategy

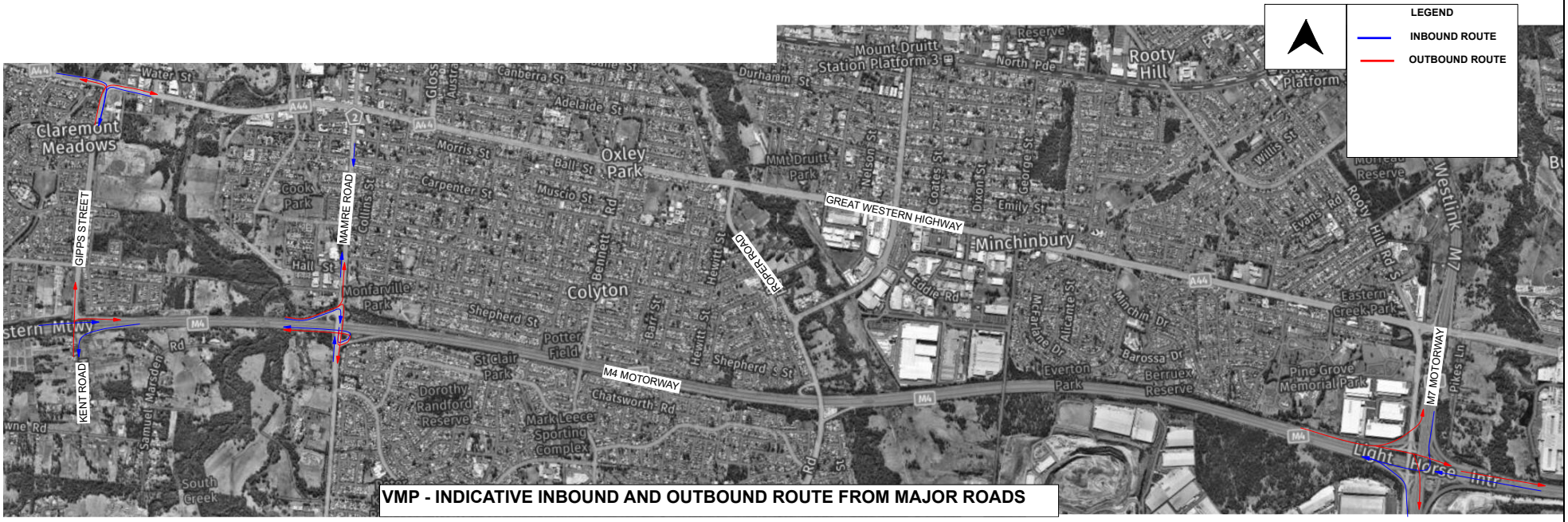


VMS STRATEGY

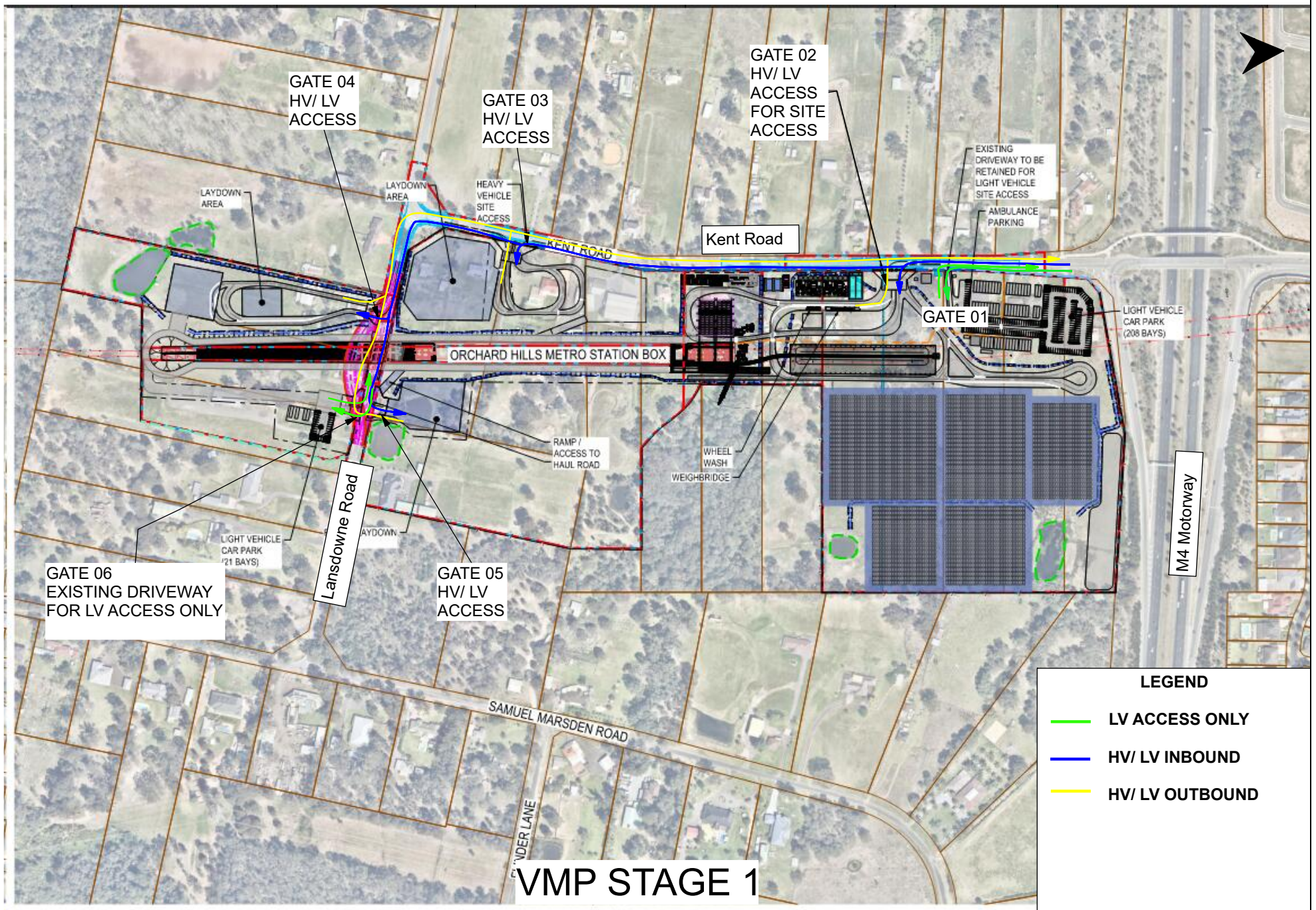
NOTES

- Speed Radar VMS boards to be installed post implementation of speed zone reduction for enforcing speed limts

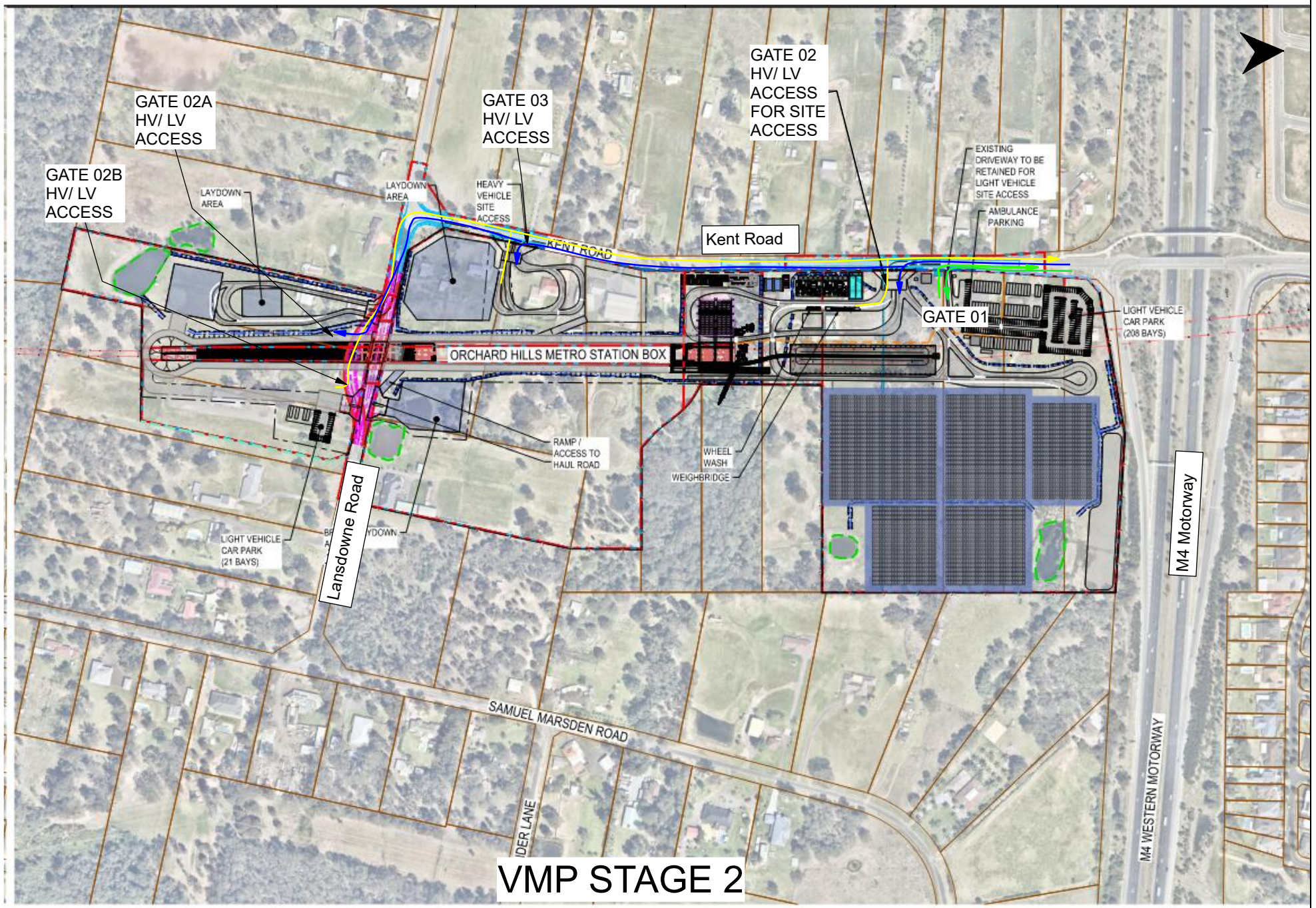
Appendix 10 Vehicle Management Plan



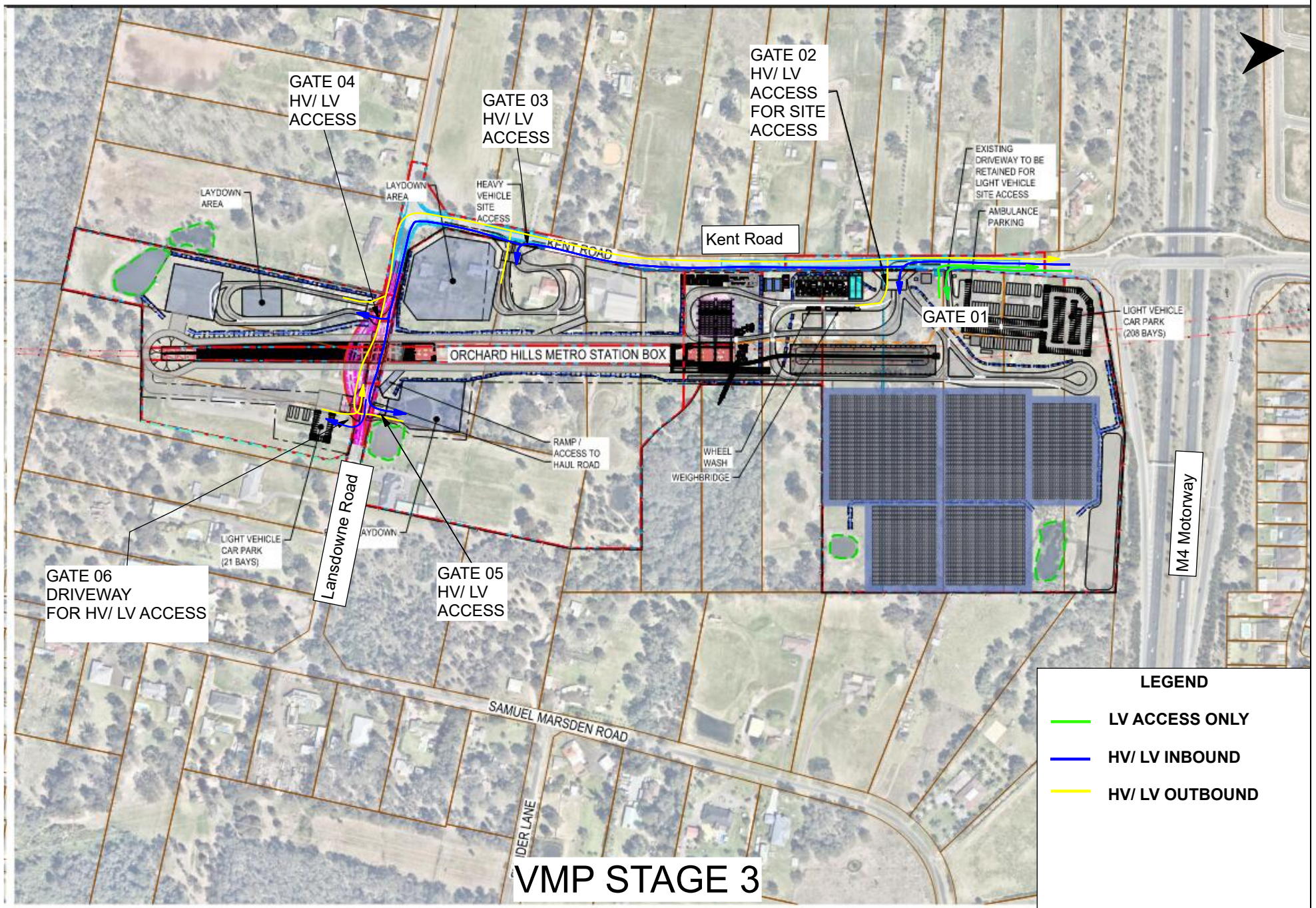
VMP - INDICATIVE INBOUND AND OUTBOUND ROUTE FROM MAJOR ROADS


GATE 04
HV/ LV
ACCESS
GATE 03
HV/ LV
ACCESS
GATE 02
HV/ LV
ACCESS
FOR SITE
ACCESS
LAYDOWN
AREA
LAYDOWN
AREA
HEAVY
VEHICLE
SITE
ACCESS
KENT ROAD
Kent Road
EXISTING
DRIVEWAY TO BE
RETAINED FOR
LIGHT VEHICLE
SITE ACCESS
AMBULANCE
PARKING
GATE 01
LIGHT VEHICLE
CAR PARK
(208 BAYS)
ORCHARD HILLS METRO STATION BOX
RAMP /
ACCESS TO
HAUL ROAD
WHEEL
WASH
WEIGHBRIDGE
M4 Motorway
LIGHT VEHICLE
CAR PARK
(21 BAYS)
Lansdowne Road
GATE 06
EXISTING DRIVEWAY
FOR LV ACCESS ONLY
GATE 05
HV/ LV
ACCESS
SAMUEL MARSDEN ROAD
LEGEND
LV ACCESS ONLY
HV/ LV INBOUND
HV/ LV OUTBOUND

VMP STAGE 1

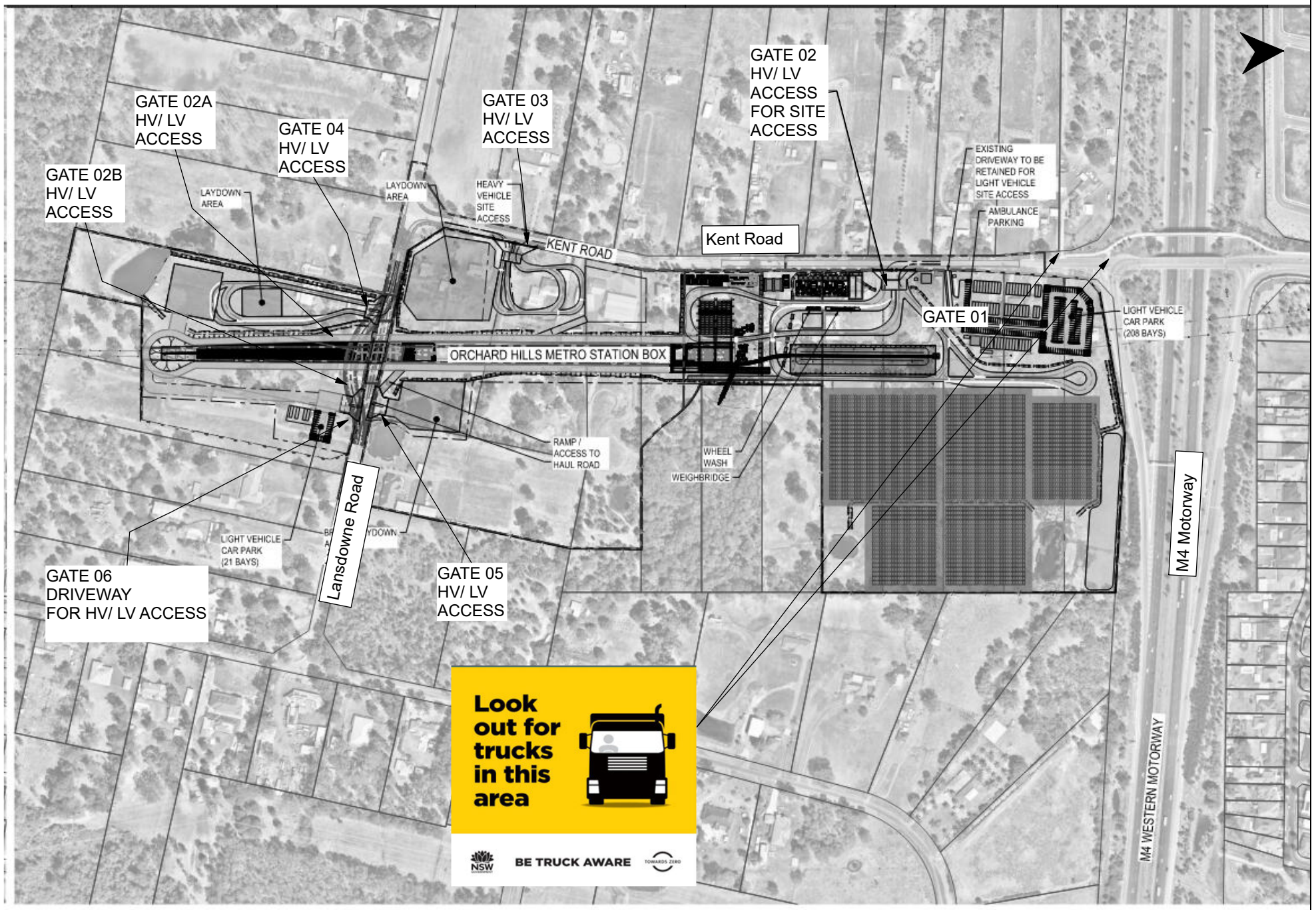

GATE 02A
HV/ LV
ACCESS
GATE 02B
HV/ LV
ACCESS
GATE 03
HV/ LV
ACCESS
GATE 02
HV/ LV
ACCESS
FOR SITE
ACCESS
LAYDOWN
AREA
LAYDOWN
AREA
HEAVY
VEHICLE
SITE
ACCESS
KENT ROAD
Kent Road
EXISTING
DRIVEWAY TO BE
RETAINED FOR
LIGHT VEHICLE
SITE ACCESS
AMBULANCE
PARKING
GATE 01
LIGHT VEHICLE
CAR PARK
(208 BAYS)
ORCHARD HILLS METRO STATION BOX
RAMP /
ACCESS TO
HAUL ROAD
WHEEL
WASH
WEIGHBRIDGE
LIGHT VEHICLE
CAR PARK
(21 BAYS)
Lansdowne Road
M4 Motorway
SAMUEL MARSDEN ROAD
M4 WESTERN MOTORWAY

VMP STAGE 2


GATE 04
HV/ LV
ACCESS
GATE 03
HV/ LV
ACCESS
GATE 02
HV/ LV
ACCESS
FOR SITE
ACCESS
LAYDOWN
AREA
LAYDOWN
AREA
HEAVY
VEHICLE
SITE
ACCESS
KENT ROAD
Kent Road
EXISTING
DRIVEWAY TO BE
RETAINED FOR
LIGHT VEHICLE
SITE ACCESS
AMBULANCE
PARKING
GATE 01
LIGHT VEHICLE
CAR PARK
(208 BAYS)
ORCHARD HILLS METRO STATION BOX
RAMP /
ACCESS TO
HAUL ROAD
WHEEL
WASH
WEIGHBRIDGE
M4 Motorway
LIGHT VEHICLE
CAR PARK
(21 BAYS)
Lansdowne Road
GATE 06
DRIVEWAY
FOR HV/ LV ACCESS
GATE 05
HV/ LV
ACCESS
SAMUEL MARSDEN ROAD
LEGEND
LV ACCESS ONLY
HV/ LV INBOUND
HV/ LV OUTBOUND

VMP STAGE 3

Appendix 11 Road Decal Design


GATE 02A
HV/ LV
ACCESS
GATE 04
HV/ LV
ACCESS
GATE 03
HV/ LV
ACCESS
GATE 02
HV/ LV
ACCESS
FOR SITE
ACCESS
GATE 02B
HV/ LV
ACCESS
LAYDOWN
AREA
LAYDOWN
AREA
HEAVY
VEHICLE
SITE
ACCESS
KENT ROAD
Kent Road
EXISTING
DRIVEWAY TO BE
RETAINED FOR
LIGHT VEHICLE
SITE ACCESS
AMBULANCE
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CAR PARK
(21 BAYS)
GATE 06
DRIVEWAY
FOR HV/ LV ACCESS
GATE 05
HV/ LV
ACCESS
M4 Motorway
M4 WESTERN MOTORWAY
Look
out for
trucks
in this
area
NSW
BE TRUCK AWARE
TOWARDS ZERO

Look out for trucks in this area

NSW GOVERNMENT

BE TRUCK AWARE

TOWARDS ZERO