Sydney Metro Martin Place
Construction Traffic Management Plan

Prepared for:

Lendlease

23 November 2020

The Transport Planning Partnership

Sydney Metro Martin Place

Construction Traffic Management Plan

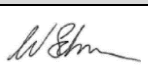
Client: Lendlease

Version: 09

Date: 23 November 2020

TTPP Reference: 18228

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
01	28/02/19	Santi Botross, Kenta Lam	Michael Lee	Wayne Johnson	
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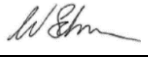
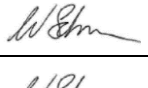
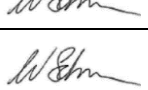
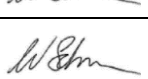
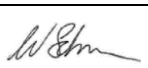
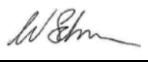
03	16/05/2019	Santi Botross	Michael Lee	Wayne Johnson	
04	17/09/2019	Santi Botross	Michael Lee	Wayne Johnson	
05	30/09/2019	Santi Botross	Michael Lee	Wayne Johnson	
06	30/10/2019	Santi Botross	Wayne Johnson	Wayne Johnson	
07	02/03/20	Santi Botross	Wayne Johnson	Wayne Johnson	
08	17/04/20	Santi Botross	Wayne Johnson	Wayne Johnson	
09	23/11/20	Santi Botross	Wayne Johnson	Wayne Johnson	

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Abbreviations

AV	Articulated vehicle (19m in length)
CSSI	Critical State Significant Infrastructure
CTMP	Construction Traffic Management Plan
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
HRV	Heavy Rigid Vehicle (12.5m in length)
LPCTCC	Local Pedestrian, Cycling and Traffic Calming Committee
PMP	Pedestrian Movement Plan
RMS	Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SSD	State Significant Development
SCO	Sydney Coordination Office
SMC&SW	Sydney Metro City and South West
TfNSW	Transport for NSW
TCG	Traffic Control Group
TCP	Traffic Control Plan
TMSP	Traffic Management Safety Plan
TTLG	Traffic and Transport Liaison Group
TTPP	The Transport Planning Partnership Pty Ltd
VMP	Vehicle Movement Plan
VMS	Variable Message Sign
WAS	Work Authorisation Deed

1 Project Information

1.1 Introduction

The New South Wales (NSW) Government through Transport for NSW (TfNSW) is implementing *Sydney's Rail Future*, a plan to transform and modernise Sydney's rail network so that it can grow with the city's population and meet the needs of commuters in the future.

Sydney Metro is a new standalone rail network identified in *Sydney's Rail Future*. The Sydney Metro network consists of Sydney Metro Northwest (previously known as the North West Rail Link) and Sydney Metro City & Southwest.

The proposed Sydney Metro City & Southwest (SMC&SW) comprises two core components:

- The Chatswood to Sydenham project, which involves the construction and operation of an underground rail line approximately 15.5 kilometres long inclusive of new stations between Chatswood and Sydenham.
- Upgrades to the 13.5-kilometre rail line and existing stations from Sydenham to Bankstown.

The Sydney Metro works at Martin Place is to be undertaken as part of the Critical State Significant Infrastructure (CSSI) project (reference SSI 7400).

This Construction Traffic Management Plan (CTMP) has been developed to account for the excavation, station construction, and North and South Over Station Development (OSD) works across the north site and south site at Martin Place.

Macquarie Group and Lendlease are collectively referred in the CTMP as the Project Team.

1.2 Scope

The scope of works will be completed over a number of stages as follows:

- Stage 1 – Excavation works of the North Shaft
- Stage 2 – Detailed excavation of the South Shaft and B3 Concourse Link
- Stage 3 – Station North and South structure construction
- Stage 4 – North and South Tower Construction including fit-out and services
- Stage 5 – Cavern structure construction including platform structure
- Stage 6 – Station fit-out and services.

Key stages of the project would be carried out as described in the Sydney Metro Martin Place – Integrated Station Development Construction and Site Management Plan (document number: CSWSMP-MAC-SMP-CM-PLN-080001) prepared by Lendlease.

2 Objectives

2.1 CTMP Objectives

The objective of this CTMP is to detail the traffic management procedures to be implemented to ensure that the works required for the precinct works at the site would be undertaken safely, while minimising the impact of the works on pedestrians, cyclists, traffic and public transport in the vicinity of the site.

This CTMP and the associated traffic staging plan, traffic management plan, vehicle movement plan, and pedestrian movement plan comply with the Sydney Metro documents outlined in Section 4.

This CTMP is to be submitted to Roads and Maritime Services (Roads and Maritime) following Sydney Coordination Office endorsement before excavation and construction works commence at the site.

The proposed Works Zones will require a Works Zone Application and to City of Sydney. Works Zone Applications must be presented to the Local Pedestrian, Cycling and Traffic Calming Committee (LPCTCC) for approval.

The primary traffic and pedestrian management objectives and principles are to:

- provide an appropriate, convenient and safe environment for pedestrians.
- maintain existing levels of safe public transport access.
- retain, as far as possible, existing kerb space for parking, loading and buses.
- restrict heavy vehicle movements to designated routes to/ from the site.
- manage and control heavy vehicle activity in the vicinity of the site.
- minimise disruption to traffic operation, road users, pedestrians, cyclists and access to adjoining properties.
- maximise safety for workers by applying low exposure work methods, education and installing appropriate traffic controls.
- works to be carried out in accordance with approved hours of work.

2.2 Report Structure

This report has been structured as follows:

- Section 3 provides project details and contact persons.
- Section 4 confirms this CTMP has been prepared in accordance with the legislative requirements, guidelines and standards.
- Section 5 describes the existing transport context and concurrent construction works.
- Section 6 details the consultation process with the stakeholders and various agencies.
- Section 7 provides an overview of the proposed excavation and station construction works methodology.
- Section 8 assesses the impacts due to excavation and construction works.
- Section 9 recommends the mitigation measures.
- Section 10 details the incidents and complaints management.
- Section 11 states the employees' agreement to work to this CTMP in its entirety.
- Section 12 draws conclusions on the CTMP.

3 Project Details

3.1 Project Name and Address

Sydney Metro City & Southwest - Chatswood to Sydenham.

Martin Place Metro Excavation, Station Construction, and North and South Over Station Development Works at North Site and South Site.

3.2 Project Duration

Project State Dates:

- Station: 16 October 2018
- North Tower: 5 July 2021
- South Tower: 12 February 2022

Project Completion Dates:

- Station: 30 August 2023
- North Tower: 20 September 2023
- South Tower: 22 December 2023

3.3 Project Personnel

Project Construction Director:	David Langford
Station Construction Manager:	Mark Dunn
North OSD Construction Manager:	Dipankar Mukherjee
South OSD Construction Manager:	Annelise Cannon

3.4 Site Supervisors

Lendlease nominates the following site supervisor who would be responsible for maintenance of traffic control devices during and outside normal working hours, and attendance at traffic incidents where required to do so by the Police and emergency services. These contact details would be provided to the Police.

Senior Site Manager:	Luke Hogan

4 Legislative Requirements, Guidelines and Standards

This CTMP has been prepared in-line with the requirements as outlined in the documents listed in Table 4.1 which pertain to the preparation of a CTMP.

Table 4.1: Overview of the Legislative Requirements, Guidelines and Standards

Document/ Guide	Summary	Specific Requirements
Principal's General Specifications G10 - Traffic and Transport Management SM ES-ST-217, Sydney Metro Integrated Management System	It contains the traffic and transport management requirements that are to be met by the Contractor during the performance of the Contractor's Activities, including the management of the impacts of the Contractor's Activities.	The Construction Traffic Management Plan (CTMP) should include any traffic staging arrangements, and inclusion of traffic control plan, vehicle movement plans, pedestrian movement plans, and parking management plans. A road occupancy license to be obtained for occupancies that occur on-road.
Construction Traffic Management Framework – City & Southwest Chatswood to Sydenham Contracts, Version 2.5, 18 December 2018, Transport for NSW	It provides an outline of the traffic management requirements and processes required for the preparation of the CTMP in terms of contents, principles and objectives, contractual requirements, Revised Environmental Mitigation Measures (REMM) and other obligations of the SSI Planning Approval.	The site specific CTMP should include the proposed traffic and parking management measures which are developed in consultation with the Sydney Coordination Office, Roads and Maritime, Sydney Light Rail Team within TfNSW, and City of Sydney. It includes any relevant correspondence with stakeholders (e.g. bus operators) where applicable. It also includes the Traffic Control Plan (TCP) for the specific works and RMS and SCO imperatives outlined in Appendix C of the CTMF.
Critical State Significant Infrastructure, Sydney Metro City & Southwest Chatswood and Sydenham, Conditions of Approval, Modification 3 – March 2018	It lists administrative conditions for the critical state significant infrastructure including the establishment of Traffic and Transport Liaison Group (TTLG), traffic, transport and pedestrian access, and construction traffic and access.	Ongoing consultation with TTLG regarding the traffic and management measures during the development of the CTMP. The CTMP should include efficient and safety site access, erection and maintenance of hoarding, cumulative construction vehicle management, bus facilities, signage changes, parking management, heavy vehicle management, emergency and property access, user and passenger safety, incidence response, monitoring of transport and access impacts etc.
Sydney Metro Principal Contractor Health and Safety Standard – 29 May 2018	It sets out requirements for compliance with WHS and Rail Safety legislation as well as good management systems practice that collectively contribute to the delivery of the Sydney Metro program.	The CTMP should include a procedure for working on or near public roads, and manage risks associated with working in and around live traffic in accordance with legislation, RMS controls. Australian Standards and Sydney Metro Construction Traffic Management Framework.

Revised Mitigation Measures Allocation, Tunnel and Station Excavation, Revision 2.0.	It provides a list of specific mitigation measures in relation to construction traffic and transport.	The CTMP should include mitigation measures to manage construction traffic and transport impacts.
City of Sydney Standard Requirements for Construction Traffic Management Plans and Standard Requirements for Construction Traffic Management Plan Report	The document details specific requirements during the demolition, excavation and construction works to be undertaken within the City of Sydney area.	The CTMP should include, site access locations, truck movements, traffic control measures, road user priority and TCP etc.
Road and Maritime Services Guide to Traffic Control at Worksites Version 4, 2010.	This Guide must be used on all RMS road work sites, and is also encouraged to be used on non-RMS sites. Standard TCPs can be used at work sites for which the plan meets all requirements, where appropriate, the standard TCP could be modified with strict limits to suit site conditions.	The TCP should show signs and devices arranged to warn traffic and guide it around, or past a work site. It is to detail the location, spacing and sizes of all signs and devices, parking delineation, any containment or safety fencing and pedestrian routes etc.
Australian Standard AS1742.3-2002 – Manual of uniform traffic control devices, Part 3, traffic control devices for works on roads.	It provides a set of uniform practices for the signing and delineation of construction and maintenance works which will promote the safety of both workers and road users at the work site.	Any temporary traffic control devices must be installed in accordance with AS 1742.3:2009.

4.1 Approvals and Procedures

This CTMP was provided to the Sydney Coordination Office, Roads and Maritime, Sydney Light Rail Team within TfNSW, Sydney Metro and City of Sydney for commentary. Feedback from the authorities has been incorporated into the final CTMP (this report).

4.2 CTMP Principles

This CTMP has been developed with the following principles in mind to ensure:

- the provision of a safe environment for road users and workers.
- the hierarchy of access given to the following order, with incidents & emergency services given top priority, followed by events (special and unplanned), pedestrians, bicycles and buses etc.
- the overall impact on road users is kept to a minimum.
- access is maintained for the local community, transport operators and commercial developments.
- road users and local communities are regularly informed in relation to changed traffic conditions.

4.3 Compliance to the Legislative Requirements, Guidelines and Standards

Compliance tables against the relevant requirements are shown in Table 4.2 to Table 4.8 with a reference of where the information is provided in this CTMP.

Table 4.2: **Compliance to Principal's General Specifications G10** - Traffic and Transport Management

Heading	Requirement	Reference in this TMP
2.1	(a) The Contractor must construct the Project Works and construct and remove the Temporary Works with the least possible obstruction to pedestrians, cyclists, public transport services and road traffic.	Section 8.4
	(b) The Contractor must undertake all work necessary to provide for the safe movement of pedestrians, cyclists, public transport services and road traffic and the protection of persons and property around the Construction Site and all other areas affected by the Project Works, the Temporary Works and the Contractor's Activities.	Sections 10.1 to 10.4
	(c) The Contractor must prepare and submit the Construction Traffic Management Plan and, where required, all Traffic Control Plans to the Principal's Representative and each relevant Authority and obtain all necessary Approvals from the relevant Authority for temporary pedestrian, cyclist, public transport service and road traffic arrangements, including the installation of and changes to any regulatory traffic control devices, road or thoroughfare.	Section 10.3
	(d) The Contractor must also obtain all necessary Approvals from each relevant Authority to enable it to direct traffic and to appoint Traffic Controllers to provide for the safe movement of pedestrians, cyclists, public transport services and road traffic and the protection of persons and property around the Construction Site.	Section 4.1
	(e) The Contractor must conform to the requirements of all relevant Authorities, the RMS Traffic Control at Worksites Manual, AS 1742.3 Manual of uniform traffic control devices Part 3: Traffic control devices for works on roads and this Principal's Specification G10, when planning and carrying out traffic and transport management.	Section 4 & throughout the CTMP
	(f) The Contractor must conform to applicable vulnerable road user initiatives required by the Principal and relevant Authority to enhance pedestrian, cyclist and motorist safety in the vicinity of construction sites. These may include measures such as deployment of speed awareness signs in conjunction with variable message signs, blind spot and other construction vehicle devices, Metro project specific heavy vehicle driver training and shared experience educational events.	Section 10.11
	(g) The Contractor must not reduce or adversely impact road network traffic capacity and traffic flow efficiency, except after hours, where approved.	Section 8.4
2.2	(a) Details of any traffic staging arrangements associated with each proposed construction stage, including Traffic Staging Plans, and the time periods during which each stage will be in operation	Section 8.2 & 8.5
	(b) Traffic Control Plans (TCP), including provision for cyclists, and any specific traffic control arrangements associated with the conditions of approval of the ROL. The TCP sets out the specific traffic and transport management arrangements to be implemented at specific locations during the construction of the Project Works and Temporary Works	Section 10.3
	(c) Vehicle Movement Plans (VMP) showing the preferred travel paths for vehicles to enter, leave or cross the through traffic stream. A VMP is a diagram showing the preferred travel paths for vehicles associated with a work site entering, leaving or crossing the through traffic stream. A VMP may be combined with or superimposed on a TCP.	Section 8.7, Appendix C & Appendix E
	(d) Pedestrian Movement Plans (PMP) showing the allocated travel paths for workers or pedestrians around or through the work site. A PMP may be combined with or superimposed on a TCP.	Section 8.5, 10.3, 10.4 & Appendix E
	(e) Parking Management Plans (PMP) that identify parking requirements and on and offsite parking arrangements and associated impacts; remote parking arrangements and associated access between sites and public transport nodes; alternate parking arrangements for displaced parking, and communication and parking management measures. For any proposed	Section 10.2

	kerbside use impacts in the CBD a proposal for relocation of impacted users is required.	
	(f) Provision of access to adjoining properties and side roads affected by the construction.	Section 9.9
	(g) Copies of any ROL and approvals from other relevant authorities obtained.	N/A
	(h) Design drawings for any temporary roadways and detours, including alignment and surface levels, pavement widths, pavement cross-sections and drainage.	N/A
	(i) Names and contact details of nominated personnel responsible for attendance at traffic incidents where required to do so by the Police and emergency services, and for maintenance of traffic control devices and temporary roadways outside normal working hours. Provide confirmation that these details have been provided to the Police.	Section 3.1
2.3	The TCP must show, where applicable and appropriate, the following details: (a) Types and locations of permanent regulatory (R series) and warning (W series) signs. (b) Types and locations of temporary signs (T series) including advance warning signs and variable message signs (VMS). (c) Locations of permanent and temporary traffic signals. (d) Locations of any required Traffic Controllers. (e) Locations and lengths of taper and safety buffer areas. (f) Locations of safety barrier systems including end terminals. (g) Pedestrians and cyclists paths. (h) Locations of entry and exit gates to work areas, individually numbered and signposted. (i) Details of access to adjoining properties, car parking areas, and side roads. (j) Pavement marking details, including types of delineation required, turning arrows, stop/holding lines and other road markings, types and positions of raised pavement markers and other delineation devices. (k) Locations of temporary lighting.	Section 10.3 & Appendix E
2.4	The Traffic Staging Plans must show, where applicable and appropriate, the following details: (a) Lane configurations on existing and new (temporary and permanent) pavements, indicating any departures from existing traffic lanes. (b) Intersection layouts and temporary traffic signal arrangements. (c) Working areas and pedestrian and cyclist paths. (d) Access to residential properties, local businesses and community facilities. (e) Pavement markings. (f) Drainage system, both temporary and permanent, including any pollution control measures. (g) Utility services and their impact on the Project works, temporary works and Contactor's activities. (h) If removal of pavement markings is required, details of the proposed methods for removal, the estimated durations to carry out the removal, and if necessary, any proposed measures to restore the road surface.	Section 8.5
2.5	Road Occupancy Licenses	N/A
3.1	Traffic Control Devices The Contractor must supply and install the following, and remove them when the devices are no longer required: • regulatory traffic control devices • temporary speed zoning signs • portable and temporary fixed traffic signals • public transport service related portable and temporary fixed regulatory and advisory signage	Section 10.3 & 10.5

	Public transport service portable and temporary fixed regulatory and advisory signage must be legible, of a high standard and similar to that used in permanent situations to the satisfaction of the Principal.	
3.2	Roads and Property Accesses – The Contractor must at all times provide safe and convenient passage for vehicles, pedestrians and cyclists along, to and from roads and property. Contractor's Activities that affect the use of areas around the Construction Site and existing accesses must not be undertaken without providing adequate alternative provisions, as required by all relevant Authorities and affected property owners, and to the prior satisfaction of the Principal's Representative.	Section 9.8
3.3	Traffic Controllers – The Contractor must advise the Principal's Representative of the names of proposed traffic controllers and their traffic controllers' certificate numbers and expiry dates.	Section10 .3
3.4	Opening Temporary Roadways and Detours to Traffic – All signposting, pavement marking, safety barriers and portable or temporary traffic signals must be completed before the opening of temporary roadways to traffic, pedestrian and cyclist route changes and public transport facility changes.	N/A
3.5	Maintenance – The Contractor is responsible for the maintenance of temporary pedestrian and cyclist thoroughfares and detours, temporary public transport facilities and temporary roadways and detours and must ensure the thoroughfares and road surfaces are kept safe for pedestrians, cyclists and traffic. Any potholes or other failures must be repaired without delay and within 2 days of the occurrence of the pothole or failure.	Section 10.1
3.6	Removal – Upon completion of the Project Works all temporary pedestrian and cyclist thoroughfares and detours, temporary public transport facilities and temporary roadways and detour arrangements must be removed, and the area restored to at least the state which existed prior to the commencement of the Contractor's Activities.	Table 10.1
4.1.1	The Contractor must make the following pedestrian traffic management measures: (i) Existing longitudinal pedestrian footpaths will be maintained either in their current form, or on an alternative adjacent alignment. Wherever possible works on footpaths (where required) will be scheduled to occur outside of peak pedestrian times.	Section 10.4
	(ii) Where construction works require full or partial occupation of the existing footpath, the Contractor must temporarily narrow footpaths around the worksite or to divert pedestrians to adjacent footpaths via safe crossing facilities with the appropriate barriers and signage. Any diversions may require pedestrian demand modelling and must be agreed with the relevant Authorities.	N/A
	(iii) Footpath widths are to allow two-way pedestrian traffic that meets the pedestrian demand and has sufficient space provided to accommodate prams, strollers and wheelchairs without requiring temporary widening from their existing width prior to construction commencement. Narrowing of footpath width if required is to be approved by the relevant authorities.	Section 9.4 & 10.4
	(iv) Access to public transport facilities must be made available for customers at all times. Where excavation works and associated works limit accessibility to a facility, the Contractor must provide safe and secure temporary access incorporating handrails and other infrastructure where required. All temporary works must be in accordance with relevant standards.	N/A
	(v) Access to shops must be available for the public during business hours. Where excavation works limit accessibility to a shop during business hours, the Contractor must provide safe and secure temporary access incorporating handrails where required. All temporary works must be in accordance with relevant standards.	N/A
	(vi) The Contractor must provide additional traffic control at locations where there is an interaction between pedestrians and construction vehicles.	Section 10.3 & 10.4
	(vii) Existing transverse pedestrian movements must be maintained at existing pedestrian crossing facilities using existing traffic control signals or controlled by traffic controllers, unless approved otherwise.	Section 10.4

	(viii) All mid-block transverse pedestrian crossings must be maintained by the Contractor during construction of the Works.	Section 10.4
	(ix) The width of the mid-block crossing at Martin Place will require pedestrian demand modelling to determine the optimum width during construction. Approval will be by the relevant Authorities. It is anticipated that a larger crossing or multiple crossings is likely to be required at this location to accommodate the high pedestrian flows.	N/A
4.2	Cycle Routes – Where the Sydney Metro Works will impact cycling routes, the Contractor must provide alternative cycle routes. The Contractor must consult with local bicycle user groups, local communities, and relevant authorities regarding any proposed alternative route. The Contractor must submit that proposal and summaries of that consultation for approval by TfNSW and RMS prior to implementation.	N/A
5	Road Safety Audit – All Road Safety Audits will be undertaken in accordance with the RMS 'Guidelines for Road Safety Audit Practices (2011), with reference to current practices outlined in Austroads Guide to Road Safety Part 6 Road Safety Audit (2009) and the Sydney Metro Principal Contractor H&S Standard. Road safety audits shall be undertaken with due consideration to the high levels of pedestrian activity in the Sydney and North Sydney CBD environments.	Section 10.6 & Appendix F

Table 4.3: Compliance to Construction Traffic Management Plan Framework

Heading	Requirement	Reference in this TMP
2.1	General Traffic Management Approach Minimum disruption to pedestrians, cyclists and motorists.	Section 10.1 to 10.4
	Ensure Sydney Metro City & Southwest construction traffic accesses the arterial network as soon as practicable on route to and immediately after leaving the construction site.	Section 8.7
	Keeping Sydney moving	Throughout this CTMP
	Buses run on time with no disruption to routes and stops, where possible.	Section 10.2
	Minimise changes to traffic operation and kerbside access.	Section 10.2
	Maintain access for adjoining properties.	Section 9.8
	Minimise construction traffic generation during network peak periods.	Section 8.6
	Safe provision for vehicular and pedestrian traffic must be made at all work sites.	Section 10.1 to 10.4
	Delays to traffic in the immediate vicinity of work sites should be minimised as much as practicable.	Section 8.8
	Minimise construction traffic generation during network peak periods. It is an RMS operational imperative that the capacity and efficiency of the network is not reduced during peak periods.	Section 8.6
	Works should be coordinated so that road users do not encounter a series of delays in quick succession and such that the cumulative impact of multiple closures does not lead to unexpected congestion.	N/A
	Implement appropriate operational and other measures to ensure the safety of vulnerable road users.	Section 10.3 to 10.5
	Access for residents and businesses is to be maintained.	Section 9.8
	Road users should be kept informed about:	N/A

	• The location of works. • Forecast travel delays they are likely to experience. • Suitable alternative routes, if available. • Timing of any works, including dates and times, to enable informed decisions by the road user regarding times and routes of travel.	
	The project should present a professional and helpful interface with road users during all parts of the construction process.	N/A
	Consideration of the above for road users should include potential impacts on pedestrians and cyclists.	Section 9.4 & 10.4
	Safe provision for cyclists must be made at all work sites.	Section 9.4
	Public transport users should also be kept informed of changes due to construction.	N/A
2.2	Traffic Management Strategy a) The provision of directional signage and line marking to direct and guide drivers and pedestrians past work sites and to suitable alternative routes (if required) on the surrounding road network.	N/A
	b) Notification of proposed changes and duration using newspapers (local or majors), radio, project website, social media and direct community engagement (as required).	Section 10.8
	c) On-going or direct co-ordination with TMC and SCO, to mitigate congestion and provide rapid response should incidents or increased congestion occur as a direct result of the works.	Section 6
	d) Management and coordination of construction vehicle access to and from the work sites across pedestrian paths. The type of traffic management to be employed will be dependent on, and adjusted according to, the volume of pedestrians, passing traffic and the volume of construction vehicle activities for the site. The types of management could include manual supervision, physical barriers, temporary/portable traffic signals (where approved by RMS, BDA or council) or modification to existing traffic signals (where approved by RMS).	Section 10.1 to 10.5
	e) Ensuring that access to existing properties and businesses is maintained during the period of the works, or suitable alternative.	Section 9.8
	f) Retain existing on-street parking and restrictions, as far as is practicable.	Section 9.7
2.3	Hierarchy of Access The site specific CTMPs will be required to be developed on the basis of the following hierarchy of access: (1) Incidents & emergency services access, (2) Events (Special and unplanned), (3) Pedestrians, (4) Cycles, (5) Public transport – buses, (6) Service vehicles, (7) Coaches, (8) Taxis, (9) Kiss and Ride, and 10) Private cars (Shoppers/short stay, commuters).	Section 9
3.3.2	Construction Traffic Management Plan A contract-wide Construction Traffic Management Plan (CTMP) will be prepared by contractors, covering the full special extend of their works and multiple sites. The CTMP will comply with the Traffic Control at Worksites Manual (RMS), relevant Australian Standards, Principal's General Specifications G10 – Traffic and Transport Management and, where relevant, the RMS Work Authorisation Deed (WAD) documentation. This will allow fulfilment of the WAD requirement for a Traffic Management and Safety Plan (TMSP) subject to RMS review and approval. In addition, site specific CTMPs will be prepared and implemented having regard to the REMMs documented in Chapter 11 of the Chatswood to Sydenham Submissions and Preferred Infrastructure Report, October 2016. Construction traffic and transport REMMs include:	Throughout this CTMP
	(a) T1 – Ongoing consultation would be carried out with (as relevant to the location) with the Sydney Coordination Office, Roads and Maritime Services, Sydney Trains, NSW Trains, the Port Authority of NSW, Barangaroo Delivery	Section 6

	Authority, local councils, emergency services and bus operators to minimise traffic and transport impacts during construction	
	(b) T2 – Road Safety Audits would be carried out at each construction site. Audits would address vehicular access and egress, and pedestrian, cyclist and public transport safety.	Section 10.6 & Appendix F
	(c) T6 – Vehicle access to and from construction sites would be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasions, police presence.	Section 8.4, 8.10 & 10.3
	(d) T13 – Construction site traffic would be managed to minimise movements in the AM and PM peak periods	Section 8.4, 8.6 & 8.8
	(e) T18 – During the closure of existing entrances to Martin Place Station, marshals would be provided during the AM and PM peak periods to direct customers to available access and egress points.	N/A
	(f) T21 – The potential combined impact of trucks from multiple construction sites would be further considered during the development of Construction Traffic Management Plans.	Section 9.10
3.3.3	Site-specific CTMP Contractors will also prepare more detailed site-specific CTMPs. These will be developed by the contractor for each work site and identify proposed heavy vehicle routes, traffic and parking management measures. These plans will be developed in consultation with the TTLG and TCG meetings.	This CTMP. Section 6.1, 8.7, 8.8
	Site specific CTMPs will details construction works sites, access points, relevant signage, parking changes (if required), bus stop relocations (if required), proposed heavy vehicle routes, traffic and parking management measures, relevant correspondence with stakeholders (e.g. bus operators, Australia Post, business owners) and all traffic management and mitigation measures required to impellent any proposed works.	Section 9
	It must also include Traffic Control Plans (TCP), Vehicle Movement Plans (VMP), Pedestrian Movement Plans (PMP), Parking Management Plans and Traffic Staging Plans for the specific works, unless otherwise agreed in writing with the Principal's Representative and relevant Authorities. The Parking Management Plan will also provide details regarding onsite and off-site staff parking arrangements, including any proposed busing to and from worksites. All TCPs prepared for construction activities will be developed in accordance with Australian Standard AS1742.3 and the RMS Traffic Control at Worksites Manual. TCPs must be prepared by a person who has completed and passed the Prepare a Work Zone Traffic Management Plan training course and has current certification to the required level. All work sites and related TCPs will be implemented in compliance with the ROL issued by the TMC for the approved times and appropriate standards. ***additional requirements	Section 10.3, Appendix C & Appendix E
4.1	Traffic and Transport Liaison Group TTLG includes representatives from Sydney Metro Delivery Office, Transport for NSW (including Centre for Road Safety; Sydney Light Rail; Metro Bus & Ferry Planning and Development; Freight Strategy & Planning), RMS, TMC, Sydney Coordination Office, Port Authority of NSW, Barangaroo Delivery Authority (BDA), Department of Planning and Environment, Sydney Motorway Corporation (WestConnex), NSW Police, NSW Fire & Rescue, NSW Ambulance Service, Local Council (depending on worksite locations), Lane Cove Council, Willoughby Council, North Sydney Council, City of Sydney Council, Inner West Council, State Transit Authority, Sydney Metro Contractor(s).	Section 6
4.11	Other Organisations Other organisations may be asked to attend the TTLG and/or receive relevant information depending on the matters under discussion or consideration.	Section 6
4.2	Traffic Control Group	Section 6

	TCG includes representatives from Sydney Metro Contractor, Sydney Metro Delivery Office, Transport for NSW, RMS, TMC, Sydney Coordination Office and Local Councils.	
5.1	Communication with Existing Businesses and Residents Owners and operators of potentially affected properties and businesses will be consulted throughout the delivery of the Project and notified well in advance of any works that may potentially disrupt access to their property. Residents, property owners and businesses in the surrounding area will also be notified prior to the start of works. The proposed works and changes should also be advertised in the public notices section of newspapers (as required).	Section 10.8
5.2	Notification of Traffic Changes or Disruptive Works Activity specific communications strategies are required to be developed prior to any traffic event. These strategies should include details of the work, impacts and proposed mitigation measures. In addition to the strategy, activity-specific notifications will need to be developed and issued to directly impacted properties prior to works commencing. Notification of proposed changes should also be included on the Project website. Other communication methods that may be implemented could include, but are not limited to: • Doorknocks. • Letterbox drops. • Advertising (newspapers). • Social media updates. • Radio.	Section 10.8
5.3	Responsibilities The contractor's Stakeholder and Community Manager will be responsible for ensuring a system is in place to advise the Sydney Metro City & Southwest Project Communications Team, the TTLG and other key stakeholders each time proposed changes are to be made to traffic arrangements. Advice will include information about the changes to the traffic operation, anticipated delays to traffic, any changes to the times and duration of the work, and any other potential major disruptions.	Section 6
5.4	Roadside Messaging Appropriate signposting, whether static or Variable Message Signs (VMS), should be located and installed to provide for the easy and safe passage of vehicles, pedestrians and cyclists. This also includes public transport users accessing facilities such as bus stops. The installation of signs will be detailed within the relevant CTMP. Any signposting should be placed in accordance with relevant guidelines and standards. Messages should be clear and easily interpreted by drivers, pedestrians and cyclists, and should not create a safety hazard. The proposed location of any VMS would require the approval of the road authority.	Section 10.3 & Appendix E
6.2	Approvals	This CTMP will be sent to TMC for approval.
6.4	Road Occupancy License Process Whenever it is proposed to occupy or close a lane or road during the construction program for each of the sites, the closure will require the contractor to apply for a Road Occupancy Licence (ROL) from TMC and/or Council. ROLs are issued by the TMC for approved times, following endorsement by the SCO, for RMS State roads or locations on Regional or local roads within 100 metres of traffic signals. It should be noted that due to the critical nature of the potential traffic impacts for local roads within the Sydney and North Sydney CBDs that applications for ROLs on streets within these areas will be required to be submitted to TMC.	Separate application will be made by the contractor.
6.6	Special Event Coordination During the Project, special consideration and traffic planning will need to be undertaken for each of the sites to address the road user needs during programmed special events. It should also include the response to ad hoc	Section 9.2

	events that may occur with minimal notice, including marches, protests and other public events. Sydney Metro City & Southwest contractors will be responsible for identifying special events that occur in the area of the work site, incorporating known special events into the construction program and detailing responses and contingencies in the CTMP for each site. This coordination will occur through the Sydney Coordination Office, approved event registers of councils, the TCG and the TTLG. During development of the site specific CTMPs the proposed traffic management measures must take account of major and regular events to ensure that proposals do not impede or impact on these events.	
6.7	Adjustments to Traffic Signals Any temporary or permanent works that impact on the operation of, or require the reconstruction or adjustments to, traffic signals require close consultation with RMS and approval of the traffic signal design plans, prior to the commencement of any work. This will require entering in to a Works Authorisation Deed (WAD) with RMS.	N/A
6.8	Over-size or Over-mass Vehicle permits	N/A
6.9	Adjustments to bus routes and stops – Any proposed adjustments or relocation of bus stops to facilitate construction works require the prior approval of TfNSW, CCO and affected bus operators in consultation with local councils prior to submitting an ROL application to TMC.	Section 9.5 & 10.2
6.10	Adjustments to Australia Post Boxes or Other Roadside Furniture	Section 9.8
6.11	Council Traffic Committees Where possible, the contractor should endeavour to secure all necessary Council approvals under delegation so as to avoid the need for approvals to be secured through the Local Traffic Committee and Council meetings. Matters that may need to be considered by the Local Traffic Committee include: • establishment of a kerbside 'Work Zone' on a local or regional road • CTMPs • other changes to parking restrictions • road closures.	Section 6
6.12.1	Dilapidation surveys	Section 8.12
7.1	Haulage Routes Details of any proposed routes for heavy vehicle access will be developed in consultation with the relevant state or local government authority and detailed in the appropriate section of the site-specific CTMP. Condition E88 then requires the CTMP to be approved by RMS following endorsement by SCO and the relevant roads authority. Where haulage routes differ from the primary and secondary routes shown in the EIS/Submissions Report/PIR, the contractor will undertake a review and where necessary document these in the contract wide and site-specific CTMPs and provide a justification for these changes in accordance with E88.	Section 8.8
7.2	Management of Heavy Vehicle Movements Vehicle and pedestrian access to each work site, including the locations of entries, exits, turning restrictions, slip lanes, traffic signals, signage and other site management requirements will be established in line with the requirements of the Project approvals and in consultation with RMS, SCO, BDA and councils.	Section 6, 10.1 to 10.5
7.3	Work Zones and Heavy Vehicle Marshalling Applications for a 'Works Zone' will be undertaken by the contractor to the relevant authority.	N/A
7.4	Construction/Demolition Vehicle Types To minimise the number of heavy vehicle movements on the road network, the selection of vehicle size will consider the number of movements required, the	Section 8.4

	impact of the quantity of vehicles on road and pedestrian movements, road geometry and safety.	
7.4.1	Worker Access and Parking The assumption for all site specific CTMPs is that there will be no provision, either on the road or within the work site, for worker parking. Workers should be encouraged to use public transport in travelling to and from the work sites.	Section 8.9
7.4.2	Construction Consolidation Centre/Depot To mitigate the potential impact of construction traffic the provision of a centralised Project centre should be considered. This centre could receive deliveries and arrange for combining of loads and materials for distribution to the various worksites. This may be incorporated into the truck marshalling and logistics facility and should address the intent of planning condition E89.	N/A
7.4.3	Driver training	Section 10.11
7.4.4	Chain of Responsibility and Heavy Vehicle National Law All necessary heavy vehicle approvals and permits (e.g. over-size, over-mass, etc.), must be obtained from the relevant road manager.	N/A
8.1.1	Policy and Responsibilities When temporary or construction speed limits are required, the contractor will be required to make the necessary application to either RMS for classified roads or the local council for unclassified roads. This application will need to be submitted prior to the proposed implementation time to allow for processing and authorisation.	N/A
8.1.2	Traffic Control Techniques There are a number of traffic control methods that can be used at worksites that must be selected in accordance with the hierarchy of controls to ensure safety risks to workers (including traffic controllers) and the public are minimised So Far As Is Reasonably Practicable (SFAIRP). These include: • Temporary road deviations. • Linemarking with raised pavement markers to delineate proposed diversion. • Other traffic control devices as provided in the RMS' Traffic Control at Work Sites manual. • Portable traffic signals to control traffic flows if lane closures are required. • Directional and information signposting to direct or advise drivers. This can include Variable Message Signs (VMS), directional arrows or static signs. • The use of traffic cones, water filled barriers or other physical devices to delineate the required route. Refer also to the Sydney Metro Principal Contractor Health and Safety Standard. For longer term works, where traffic management devices are in place for an extended length of time, regular inspections are to be carried out by the Contractor's Construction Manager. This is to ensure that the controls in place continue to provide safe traffic management. All controls are to comply with the current RMS guidelines.	Section 10.3
8.1.3	Approved clothing for work personnel	Section 8.4, 8.10, 10.1
8.1.4	Plant and equipment Any plant used and working near traffic or pedestrians is to be suitably highlighted with physical protection and appropriate warning signs provided to ensure public safety.	N/A
8.2	Frequency of Inspections For long term (i.e. longer than one shift) traffic management road inspections will be carried out regularly to ensure the safe movement of traffic and the protection of persons and property through and/or around the work site.	Section 10.10 & 10.11
8.2.1	Inspections of roadwork traffic management schemes Three main types of inspections to be carried out:	Section 10.10

	a) Pre-start and pre-close down inspections of short-term traffic control. b) Weekly inspections of long-term traffic control. c) Night inspections of long-term traffic control.	
8.3	Emergency Incident Planning An Incident Management Plan for on-road incidents, or incidents that impact on the public transport network should be submitted to the TMC Emergency Transport Operation section for review and comment.	Section 9.1, 9.3 & Incident Management Plan
8.3.1	Accidents/ Incidents and Complaints The contractor's ROL register will maintain records of traffic accidents and incidents reported at work sites. Any complaints received regarding traffic delays at work sites should be referred to the Principal. The contractor will be required to table the register, upon request, at TCG meetings.	Section 11
8.3.2	Chemical spills and leaks Sydney Metro City & Southwest staff and contractors are to be instructed not to approach flammable or hazardous substances until NSW Fire and Rescue have declared the site safe. In such cases the contractor will close the roadway at a safe distance until Fire and Rescue arrives and issues appropriate instructions.	Section 9.3
8.4	Traffic Controllers and Temporary Traffic Signals The use of traffic controllers and/or temporary traffic signals to control traffic at worksites is to be in accordance with the RMS' Traffic Control at Work Sites Manual and the Sydney Metro Principal Contractor Health and Safety Standard. VMS will be used in accordance with documented RMS procedures and guidance. The placement of temporary VMS is to consider pedestrian safety and disabled access needs when placed on footpaths. A ROL may be required when a portable VMS is proposed to be located in a parking or loading bay.	Section 10.3
9.1	Worksites (i) Details of the proposed erection and maintenance of hoardings, scaffolds and associated structures shall be documented in the CTMP.	Separate application will be made by the contractor.
	(ii) The CTMPs will identify the boundaries and detail the footpath and road controls, detail the movement of construction traffic in and out of the worksite. The site specific CTMPs will consider these interactions and the impacts of gantries, etc. on the road and footpaths.	Section 8.4 & 8.5
9.2	Hoardings Consideration will be given to ensuring sight lines for side roads, vehicle accesses, signposting, and traffic signals are maintained. The presentation of the hoarding, the branding and visual aspects of the hoarding are to be in line with City of Sydney policies, and TfNSW/Sydney Metro requirements.	N/A
9.3	Site Security, Site Access and Signage The issues to be considered in determining the location of site accesses are: safety of travelling public, safety of construction workers and equipment, impact on local communities in terms of safety, noise and road damage, ease of access for emergency vehicles, and site security. The worksites will have appropriate arrangements to discourage entry without approval and minimise vandalism. All access points to worksites will have lockable gates. Appropriate information signs will be provided at worksites to identify the Project and contact persons. Contractors will be required to develop and prepare Security Management Plans based on the site-specific security threats (hazards) identified. Requirements for Security Management Plans are outlined in Sydney Metro Principal Contractor Health and Safety Standard.	Section 8.4 & 10.1
9.4	Pedestrian Security/Safety/Lighting Any hoardings or other structures on the site boundaries will have lighting in accordance with current standards, particularly where existing street lighting is	Section 8.10

	removed or obscured as a result of the site works. In those locations where this occurs, supplementary lighting is to be provided to meet the current standards. Discussions will be carried out with the relevant authority if the coverage or otherwise of CCTV cameras is impacted by the works.	
9.5	Management of risks to vulnerable road users – The Contractor is to adopt applicable vulnerable road user safety measures as per the SM PS-ST-221 Sydney Metro Principal Contractor Health and Safety Standard. Such measures include, but are not limited to: • The deployment of speed awareness signs in conjunction with variable message signs • Heavy vehicles equipped with systems to improve vehicle safety, visibility and the detection of vulnerable road users • Mandatory completion of Sydney Metro City & Southwest project specific Heavy Vehicle Driver Introduction Training • Contractor engagement in shared experience educational events. Where worksites have an impact on footpaths, consideration will be given to the requirements of all pedestrians and especially vulnerable road users (school children, elderly and mobility impaired). DDA requirements will be adopted with kerb ramps or other measures provided at road crossings. Footpath widths are required to allow for two-way pedestrian traffic allowing for prams/strollers and wheelchairs. Where high numbers of vulnerable road users are using a footpath, special provision and design consideration may be required to mitigate any impacts.	Section 9.4, 10.5 & 10.11
10.2.3	Road Safety Audits Sydney Metro City & Southwest and/or its contractors will undertake Road Safety Audits for CTMPs, to be submitted with the CTMP. Regular safety audits of work zones are also to be undertaken to ensure all worksite safety arrangements are in place. These audits will be additional to the daily inspections by the site staff. Particular attention will be given to WHS guidelines, work areas adjacent to the road, movement of construction traffic, vehicle speeds and all warning devices or systems	Section 10.6 & Appendix F

Table 4.4: Compliance to Critical State Significant Infrastructure Conditions of Approval

Heading	Requirement	Reference in this TMP
E75	The CSSI must be designed, constructed and operated with the objective of integrating with existing and proposed road and related transport networks and minimising adverse changes to the safety, efficiency and, accessibility of the networks, and facilitate an improved level of service in relation to permanent and operational changes. Detailed design and assessment of related traffic, parking, pedestrian and cycle accessibility impacts and changes shall be undertaken: (a) in consultation with, and to the reasonable requirements of the Traffic and Transport Liaison Group(s) established under Condition E77;	Section 6
	(b) in consideration of existing and future demand, connectivity (in relation to permanent changes), performance and safety requirements;	Section 5.8 & 9.9
	(c) to minimise and manage local area traffic impacts;	Section 10.1 to 10.5
	(d) to ensure access is maintained to property and infrastructure; and	Section 9.1 & 9.8
	(e) to meet relevant design, engineering and safety guidelines, including Austroads, Australian Standards, and RMS (RTA) requirements.	Section 4 & 10.3
	Copies of civil, structural and traffic signal design plans shall be submitted to the Relevant Road Authority for consultation before the commencement of the relevant works.	N/A
E76	Permanent road works, including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists, and public transport users	N/A

	must be subject to safety audits demonstrating consistency with relevant design, engineering and safety standards and guidelines. Safety audits must be prepared in consultation with the Traffic and Transport Liaison Group before the completion and use of the subject infrastructure and must be made available to the Secretary upon request.	
E77	The Proponent must establish a Traffic and Transport Liaison Group(s) (TTLGs) to inform traffic and transport management measures during construction and operation of the CSSI. Management measures must be coordinated with and approved by the RMS following endorsement by the Sydney Coordination Office and consultation with the Relevant Roads Authority. The TTLG must comprise representatives from the Relevant Road Authority(ies) (including the RMS, relevant Councils, and the Barangaroo Delivery Authority as appropriate), transport operators (including bus and taxi operators), emergency services and Port Authority of NSW as required. The TTLG must be consulted on to inform the preparation of the Construction Traffic Management Plan(s) and Interchange Access Plan(s).	Section 6
E78	The Proponent must undertake supplementary analysis and modelling as required by the TTLG to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations, public including changes to and the management of pedestrian, bicycle and public transport networks transport services, pedestrian and cyclist movements. Revised traffic management measures, must be incorporated into the Construction Traffic Management Plan(s), Interchange Access Plan(s) and Station Design and Precinct Plan(s).	Noted – to be advised by the TTLG
E79	The Proponent must consult with the Relevant Road Authority regarding the use of any weight restricted road by heavy vehicles.	N/A
E80	The Proponent must minimise truck movements during peak periods within commercial centres. Peak periods are 7am to 10am and 4pm to 7pm Monday to Friday.	Section 8.6
E81	The Proponent must prepare and implement a Construction Traffic Management Framework (CTMF). The CTMF must be prepared in consultation with TTLG(s) and submitted to the Secretary for approval no later than one (1) month before the commencement of construction (or within any other timeframe agreed with the Secretary). The CTMF will set out the approach to managing issues across the CSSI and include but not be limited to:	This CTMP
	(a) Construction site access, including the efficient and safe egress and ingress of vehicles, consistent relevant Austroads, Australian Standards and RMS requirements;	Section 8.4
	(b) the erection and maintenance of hoardings, scaffolds and associated structures on roads;	Separate application will be made by the contractor.
	(c) short- and long-term lane and road closures including those associated with plant, crane and other operations between the road reservation and construction site;	Section 8.5 & Appendix D
	(d) cumulative construction vehicle management from surrounding developments;	Section 9.9
	(e) bus stop and associated facilities relocation and service rerouting;	Section 9.5
	(f) short and long term works zones on roads adjacent to the construction site;	Section 8.5
	(g) mail zone and associated facilities relocation;	N/A
	(h) short and long term works within the road reservation;	N/A
	(i) regulatory, advisory and other signage changes and modifications;	Section 10.2 & 10.3

	(j) parking management, including on and off street and remote parking and access;	Section 10.2
	(k) heavy vehicle management, the restriction (unless otherwise approved) of heavy vehicles to certain routes and the minimisation of heavy vehicle traffic in peak traffic periods;	Section 8.6 & 8.7
	(l) special event management;	Section 9.2
	(m) the retention and reinstatement of emergency and property access;	Section 9.8
	(n) the retention of user and passenger safety, including pedestrians, cyclists, public transport users, including at stops and related facilities;	Section 9.4 & 9.5
	(o) incident response planning around construction worksites; and	Section 9.1
	(p) monitoring of transport and access related impacts attributable to the CSSI.	Section 10.11
E82	Construction Traffic Management Plans (CTMPs), consistent with the CTMF required in Condition E81, must be prepared for each construction site in consultation with the TTLG(s), and submitted to the RMS for approval following Sydney Coordination Office endorsement before construction commences at the relevant construction site.	Section 4.1 & 6
E83	Where construction results in a worsening of the matters identified in Condition E81(a)-(o), the Proponent must review the measures identified in the CTMPs in consultation with the TTLG(s), as relevant. Any changes to the CTMPs must be submitted to the RMS for approval following Sydney Coordination Office endorsement and implemented	Section 10.8
E84	Notwithstanding the above, the Proponent must investigate opportunities to maximise spoil removal by non-road methods and schedule final track laying as soon as practicable following completion of tunnelling with a view to transporting materials and equipment for station fit-out, systems and commissioning by rail to minimise truck movements in town centres and the Sydney CBD. The findings of the investigation must be reported to the Secretary before commencement and before completion of tunnel spoil generation as relevant. A decision to not adopt spoil haulage or materials delivery by non-road methods must be demonstrated to the satisfaction of the Secretary.	N/A
E85	Heavy vehicle haulage must not use local roads unless no feasible alternatives are available	Section 8.7
E86.1	Construction traffic is not to use Elliot Street, North Sydney except where required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm.	N/A
E87	Permanent road works, including vehicular access, signalised intersection works, and works relating to pedestrians, cyclists and public transport users will be subject to safety audits demonstrating consistency with relevant design, engineering and safety standards and guidelines. Safety audits must be included within each relevant CTMP and carried out in consultation with the TTLG before the completion and use of the subject infrastructure and must be made available to the Secretary on request.	N/A
E88	Details of haulage routes and heavy vehicle sizes to transport material to and from any construction site must be specified in the Construction Traffic Management Plan(s) and be approved by the RMS following endorsement by Sydney Coordination Office and consultation with the TTLG(s).	Section 8.7
E89	The Proponent must implement traffic and transport management measures with the aid of a truck marshalling and logistics facility located within close proximity to the Sydney and North Sydney CBDs. The facility must be operational in advance of tunnel spoil generation. Details of the facility must be documented in the Ancillary Facilities Management Plan required by Condition A16.	N/A
E89.1	Access to basement car parking to properties off Randle Lane must be maintained at all times except in consultation with affected occupiers and	N/A

	agreement with affected owners for alternative parking, storage or other forms of compensation.	
E90	A Road Dilapidation Report must be prepared for local roads proposed to be used by heavy vehicles for the purposes of the CSSI before the commencement of use by such vehicles. Copies of the Road Dilapidation Report must be provided to the Relevant Council within three (3) weeks of completing the surveys and no later than one (1) month before the use of local roads by heavy vehicles.	Section 8.12
E91	If damage to roads occurs as a result of construction of CSSI, the Proponent must either (at the landowner's discretion): (a) compensate the landowner for the damage so caused. The amount of compensation may be agreed with the landowner; or	Section 8.12
	(b) rectify the damage so as to restore the road to at least the condition it was before construction commenced as identified in the Road Dilapidation Report(s).	Section 8.12

Table 4.5: Compliance to Revised Environmental Mitigation Measures

Heading	Requirement	Reference in this TMP
T1	Ongoing consultation would be carried out with (as relevant to the location) the Sydney Coordination Office, Roads and Maritime Services, Sydney Trains, NSW Trains, the Port Authority of NSW, Barangaroo Delivery Authority, local councils, emergency services and bus operators in order to minimise traffic and transport impacts during construction.	Section 6
T2	Road Safety Audits would be carried out at each construction site. Audits would address vehicular access and egress, and pedestrian, cyclist and public transport safety.	Section 10.6 & Appendix F
T3	Directional signage and line marking would be used to direct and guide drivers and pedestrians past construction sites and on the surrounding network. This would be supplemented by Variable Message Signs to advise drivers of potential delays, traffic diversions, speed restrictions, or alternate routes.	N/A
T4	In the event of a traffic related incident, co-ordination would be carried out with the Sydney Coordination Office and / or the Transport Management Centre's Operations Manager.	Section 9.3
T5	The community would be notified in advance of proposed road and pedestrian network changes through media channels and other appropriate forms of community liaison.	Section 10.9
T6	Vehicle access to and from construction sites would be managed to ensure pedestrian, cyclist and motorist safety. Depending on the location, this may require manual supervision, physical barriers, temporary traffic signals and modifications to existing signals or, on occasions, police presence.	Section 10.1 to 10.5
T7	Additional enhancements for pedestrian, cyclist and motorist safety in the vicinity of the construction sites would be implemented during construction. This would include measures such as: • Use of speed awareness signs in conjunction with variable message signs near construction sites to provide alerts to drivers • Community educational events that allow pedestrians, cyclists or motorists to sit in trucks and understand the visibility restrictions of truck drivers, and for truck drivers to understand the visibility from a bicycle; and a campaign to engage with local schools to educate children about road safety and to encourage visual contact with drivers to ensure they are aware of the presence of children • Specific construction driver training to understand route constraints, expectations, safety issues, human error and its relationship with fitness for work and chain of responsibility duties, and to limit the use of compression braking	Section 10.1 & 10.5

	• Use of In Vehicle Monitoring Systems (telematics) to monitor vehicle location and driver behavior • Safety devices on construction vehicles that warn drivers of the presence of a vulnerable road user located in the vehicles' blind spots and warn the vulnerable road user that a vehicle is about to turn.	
T8	Access to existing properties and buildings would be maintained in consultation with property owners.	Section 9.8
T9	All trucks would enter and exit construction sites in a forward gear, where feasible and reasonable.	Section 8.4 & Appendix C
T10	Any relocation of bus stops would be carried out by Transport for NSW in consultation with Roads and Maritime Services, the Sydney Coordination Office (for relevant locations), the relevant local council and bus operators. Wayfinding and customer information would be provided to notify customers of relocated bus stops.	N/A
T11	For special events that require specific traffic measures, those measures would be developed in consultation the Sydney Coordination Office (for relevant locations), Roads and Maritime Services, Barangaroo Delivery Authority (for relevant locations) and the organisers of the event.	Section 9.2
T12	Construction sites would be managed to minimise construction staff parking on surrounding streets. The following measures would be implemented: • Encouraging staff to use public or active transport • Encouraging ride sharing • Provision of alternative parking locations and shuttle bus transfers where feasible and reasonable. Transport for NSW would work with local councils to minimise adverse impacts of construction on parking and other kerbside use in local streets, such as loading zones, bus zones, taxi zones and coach zones.	Section 8.9
T13	Construction site traffic would be managed to minimise movements in the AM and PM peak periods.	Section 8.6
T14	Construction site traffic immediately around construction sites would be managed to minimise movements through school zones during pick up and drop off times.	N/A
T15	Pedestrian and cyclist access would be maintained at Crows Nest during the temporary closure of Hume Street, and at Martin Place during the temporary partial closure of Martin Place. Wayfinding and customer information would be provided to guide pedestrians and cyclists to alternative routes.	N/A
T18	During the closure of existing entrances to Martin Place Station, marshals would be provided during the AM and PM peak periods to direct customers to available access and egress points.	N/A
T19	Where existing parking is removed to facilitate construction activities, alternative parking facilities would be provided where feasible and reasonable.	Section 9.7 & 10.2
T20	Alternative pedestrian routes and property access would be provided where these are affected during the construction of the power supply routes.	N/A
T21	The potential combined impact of trucks from multiple construction sites would be further considered during the development of Construction Traffic Management Plans.	Section 9.9
T22	Where existing footpath routes used by pedestrians and / or cyclists are affected by construction, a condition survey would be carried out to confirm they are suitable for use (e.g. suitably paved and lit), with any necessary modifications to be carried out in consultation with the relevant local council.	N/A
T23	Specific station management measures would be implemented during pedestrian movement Phase 2. This would include strategies such as encouraging passengers to exit platforms at the closest stair case or escalator, signage and marshalling of passengers waiting to board to minimise those waiting adjacent to hoarding and to direct passengers so that that there is even distribution along the platform.	N/A

T27	Detailed construction planning would be coordinated with the Sydenham to Bankstown project and the Temporary Transport Strategy arrangements to minimise impacts on the traffic and transport network.	N/A

Table 4.6: Compliance to City of Sydney Standard Requirements for Construction Traffic Management Plan

Heading	Requirement	Reference in this TMP
1	Details of routes to and from site and entry and exit points from site – site specific	Section 8.4 & 8.7
2	Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific	Section 8.4 & 8.7
3	The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.	Section 8.7 & 10.11
4	All vehicles must enter and exit the site in a forward direction (unless specific approval for a one-off occasion is obtained from the City's Construction Regulation Unit).	Section 8.4 & Appendix C
5	Trucks are not allowed to reverse into the site from the road (unless specific approval for a one-off occasion is obtained from the City's Construction Regulation Unit).	Section 8.4 & Appendix C
6	The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction. NOTE: No dog trailers or articulated vehicles (AV) to be used (unless specific approval for a one-off occasion is obtained from the City's Construction Regulation Unit).	Section 8.8
7	Oversize and over-mass vehicles are not allowed to travel on Local Roads (unless approval for a one-off occasion is obtained from the City's Traffic Operations Unit). Requests to use these vehicles must be submitted to the City 28 days prior to the vehicle's scheduled travel date.	N/A
8	No queuing or marshalling of trucks is permitted on any public road.	Section 8.7
9	Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from the STA and RMS respectively prior to commencement of works.	N/A
10	All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off-street area or be encouraged to use public transport and not park on the public road.	Section 8.9
11	All loading and unloading must be within the development site or at an approved "Works Zone".	Section 8.4
12	The Applicant must apply to the City's Traffic Works Coordinator to organise appropriate approvals for Work Zones and road closures.	N/A
13	The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.	N/A
14	The Applicant must apply to the Transport for NSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.	Separate application will be made by the contractor.
15	The Applicant must apply to the City's Construction Regulation Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.	Section 8.5 & Appendix D
16	The Applicant must comply with development consent for hours of construction.	Section 8.3

17	All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and Roads and Maritime Services (RMS) Traffic Control at Work Sites Guidelines.	Section 10.3
18	Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - the vehicles already on the road have right-of-way.	Section 10.3
19	Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. at all times the pedestrians have right-of-way on the footpath not the trucks.	Section 10.3
20	Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.	N/A
21	The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.	Separate application will be made by the contractor.
22	The Applicant must apply to the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.	N/A
23	The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or RMS for consideration. Also, WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under RMS regulations).	Section 4
24	Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.	Section 4

Table 4.7: Compliance to Sydney Metro Principal Contractor Health and Safety Standard

Heading	Requirement	Reference in this TMP
11.19	a) Traffic Management Plans (TMPs) must be developed by a person that holds the RMS approved Prepare Work Zone Traffic Management Plan certificate of competence.	Appendix E
	b) Where there is a risk of workers from being struck by live traffic, temporary road closures and detours must be considered as the first option to eliminate the hazard of moving traffic.	Section 7
	c) Unless it can be reasonably justified through a risk assessment, temporary traffic signalling devices must be used to control traffic movements as per AS1742.3 and mitigate the risks to workers (including traffic controllers) of being struck by moving traffic.	Section 7
	d) Where the use of traffic controllers is deemed reasonably practicable, traffic controllers must hold an RMS approved Traffic Controller's license (formerly known as the Blue Card – Stop/Slow bat).	Section 7 & 8.4
	e) Unless approved in writing by the PC's Project Director, traffic controllers and workers on the road must be provided with physical protection from the risk of being struck by out-of-control vehicles using preferably road safety barriers compliant to AS3845 accepted by RMS for use on NSW Roads (and compliant with AS 3845), or engineer-certified crash attenuators (e.g. Truck and Trailer Mounted Attenuators) fitted to shadow vehicles.	To be obtained as part of final CTMP approval
	f) Where crash attenuators are used they must be used in accordance with the National Guidelines for the use of Truck and Trailer Mounted Attenuators (TMAs).	N/A

	g) All signage must be installed in accordance with the relevant TCP/TCGS and must be inspected at the frequency specified in the CTMP.	Appendix E
	h) In addition to the minimum required PPE as specified in the section of this Standard, entitled Personal Protective Equipment (PPE), Traffic Controllers must wear high visibility clothing with trousers fitted with double-reflective stripes or reflective boot covers in accordance with Section 8 of AS 4602.	Section 8.4
	i) Sufficient traffic controller workers must be engaged so that the traffic controllers may rotate and have breaks.	Section 8.4 & Appendix E
	j) Traffic controllers working at night must carry illuminated wands to direct traffic.	Section 8.4

Table 4.8: Compliance to City of Sydney Standard Requirements for Preparing a CTMP Report

Heading	Requirement	Reference in this TMP
1	Details of the project including site location, scope of works, general breakdown of activities and hours of operation.	Section 5.1, 8.2 & 8.4
	Surrounding traffic environment showing State, Regional and Local Roads, road network configuration and use, public transport facilities and existing parking restrictions	Section 5.2, 5.4 to 5.7
2	Truck routes to and from the site utilising State and Regional Roads – map of the routes must be provided	Section 8.7
	The largest vehicle that will be used during construction in accordance with the City's CTMP Standard Requirements	Section 8.7
	Frequency of truck movements	Section 8.6
	Demonstrate using swept path diagrams how trucks enter, circulate and exit the site or Works Zone in a forward direction	Appendix C
	Works Zones will need to be considered if trucks cannot enter or exit the site in a forward direction at all times	N/A
	Demonstrate using swept path diagrams how trucks will navigate to and from the site along the nominated truck route	Section 8.7
	Provide a plan showing where vehicles stand to load and unload, where plant will stand, location of storage areas for equipment, materials and waste, location of Works Zones (if required) and location of cranes (if required)	Section 8.5 & Appendix D
	The approvals of Works Zones and Road Closures (to install cranes) is a separate process that requires Traffic Committee endorsement	Section 8.5 & Appendix D
3	Provide details of the impact of the works on residents, businesses, pedestrians, cyclists, local traffic and emergency services and management of staff parking.	Section 9.8, 9.4, 9.9, 9.1, 8.8
4	Include Swept Path drawings for vehicles entering, circulating and exiting the site and Works Zones in appendices.	Appendix C
-	Include Traffic Control Plans (done by RMS accredited traffic controller) for any diversions or Traffic Management relating to vehicles accessing the site in appendices.	Section 10.3 & Appendix E
-	Include the City's CTMP Standard Requirements. (There are some parts of the requirements that are in red and will need to be completed on a site-specific basis) in appendices.	Table 6 & Appendix A

5 Existing Transport Conditions

5.1 Site Location

The subject site consists of two sites, namely:

- North Site – the several lots located directly north of 48-50 Martin Place (DP222356 Lot 1, DP548142 Lot 2, DP173027 Lot 1, SP13171, DP929277 Lots 1 & 2, DP526161 Lot 1). The North Site is bound by Hunter Street to the north, Elizabeth Street to the east, Castlereagh Street to the west and neighbouring properties to the south.
- South Site – 39-51 Martin Place (DP1103195 Lots 1 & 2). The South Site is bound by Martin Place Plaza to the north, Elizabeth Street to the east, Castlereagh Street to the west and neighbouring properties to the south.
- Bligh Street Site Compound – (626651 Lot 1). Blight Street Site Compound is bound by Bligh Street to the east and O'Connell Street to the west.

5.2 Surrounding Road Network

The road network surrounding the subject site is described herein.

Hunter Street is a local road in the CBD road network and is configured as a two-way, four-lane road. It extends between George Street in the west to Macquarie Street in the east. The section of the road between Pitt Street and Macquarie Street offers restricted on-street parking within the kerbside lane. Hunter Street intersects with Castlereagh Street and Elizabeth Street at separate signalised junctions with formal pedestrian crossings on all approaches of the intersection.

Castlereagh Street is a local road in the CBD road network and operates as a one-way street in the southbound direction from Hunter Street. It has four trafficable lanes with two kerbside lanes used for parking and the two middle lanes used for through traffic movements. One of the middle lanes operates as a bus lane. Wide footpaths exist on both sides of the street.

Elizabeth Street is a local road in the CBD road network. It is configured as a six-lane, two-way road with restricted on-street parking permitted in the kerbside lanes. In the southbound direction, there is a bus lane in the middle lane. Wide footpaths exist on both sides of the street. There is an on-footpath post office box on Elizabeth Street. The day to day operation of the post office box would not be affected by construction works.

Castlereagh Street and Elizbeth Street intersect with Martin Place Plaza at signalised mid-block crossing.

Bligh Street is classified as a local road and extends between Bent Street to the north and Hunter Street to the south. It carries one-way traffic flow in the southbound direction. There is one traffic lane and indented parking lanes on both sides of the street. Bus layovers exist on either side of Bligh Street with loading zones located from the bus layover area on the eastern

side to the No Stopping area associated with the traffic signals on Hunter Street. 'No Parking Coaches Excepted' and a work zone are currently located at the northern end of Bligh Street. On the western side of Bligh Street, bus layovers (x4 spaces) and loading zones are provided.

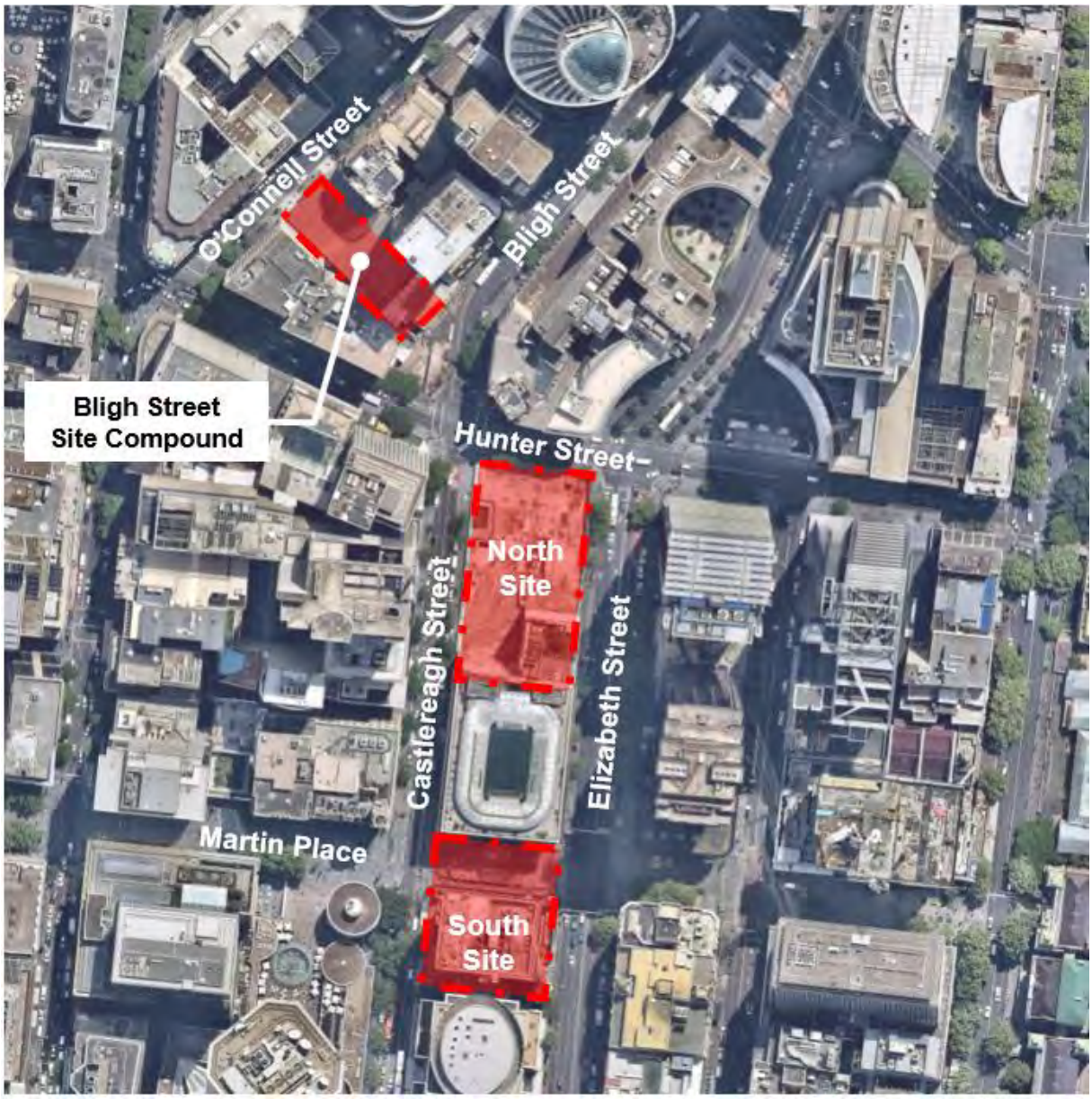
Footpaths are located on both sides of Bligh Street which are approximately 4m in width. The footpath widens on the western side to approximately 15m from the end of the bus layover to Hunter Street. There are no cycling facilities on Bligh Street.

O'Connell Street is classified as a local road that is a one-way street in the southbound direction between Bent Street and Hunter Street. It comprises two traffic lanes, an indented parking lane on the eastern side of the street and a kerbside parking lane on the western side of the street. Bus layovers exist on either side of O'Connell Street with loading zones. A short-term pickup area (P 5 minutes) is provided outside of the Radisson Blue Hotel on the western side of the street. Loading zones on the eastern side are to the north of the site entry and between the two site driveways. A mail zone also exists north of the site.

Footpaths are located on both sides of the street which are approximately 3m in width. There is street furniture and trees located along O'Connell Street with a Telstra phone booth kiosk situated in front of the site. There are no cycling facilities on O'Connell Street.

All of the above streets are located within the 40km/h CBD speed limit area. An aerial photo of the subject site and the surrounding local road network is shown in Figure 5.1.

Figure 5.1: Subject Site and Surrounding Road Network



Basemap source: Nearmap, viewed online on 15/06/2020

5.3 Traffic Volumes

A summary of the peak hourly traffic volumes on the surrounding road network as documented in the Sydney Metro EIS is provided in Table 5.1. Traffic flows on Bligh Street and O'Connell Street are not documented in the Sydney Metro EIS. Therefore, historical traffic flow data on Bligh Street has been extracted from a traffic impact assessment prepared in 2017 for another other project in the vicinity. Historic traffic flows are not available for O'Connell Street. Given that O'Connell Street is a local road having a similar configuration (one-way southbound) and function to Bligh Street, it is assumed that the streets would carry similar peak hourly traffic flows. The peak hourly traffic flows on Bligh Street are provided in Table 5.1.

Table 5.1: Existing Traffic Volumes

Road	Direction	AM Peak Hour (Two-way movements)	PM Peak Hour (Two-way movements)
Castlereagh Street between King Street and Hunter Street	Southbound	380	510
Hunter Street between Castlereagh Street and Elizabeth Street	Eastbound	190	190
	Westbound	790	630
Elizabeth Street between King Street and Hunter Street	Southbound	1,130	1,110
	Northbound	410	590
Bligh Street north of Hunter Street (1)	One-way Southbound	254	202

Notes:
(1) Given that O'Connell Street is a local road having a similar configuration (one-way southbound) and function to Bligh Street, it is assumed that the streets would carry similar peak hourly traffic flows.

5.4 Kerbside Uses

A summary of kerbside uses surrounding the subject site and time restrictions pertaining to parking and loading on these streets are given in Figure 5.2 and Figure 5.3.

Figure 5.2: Kerbside Uses at North & South Sites

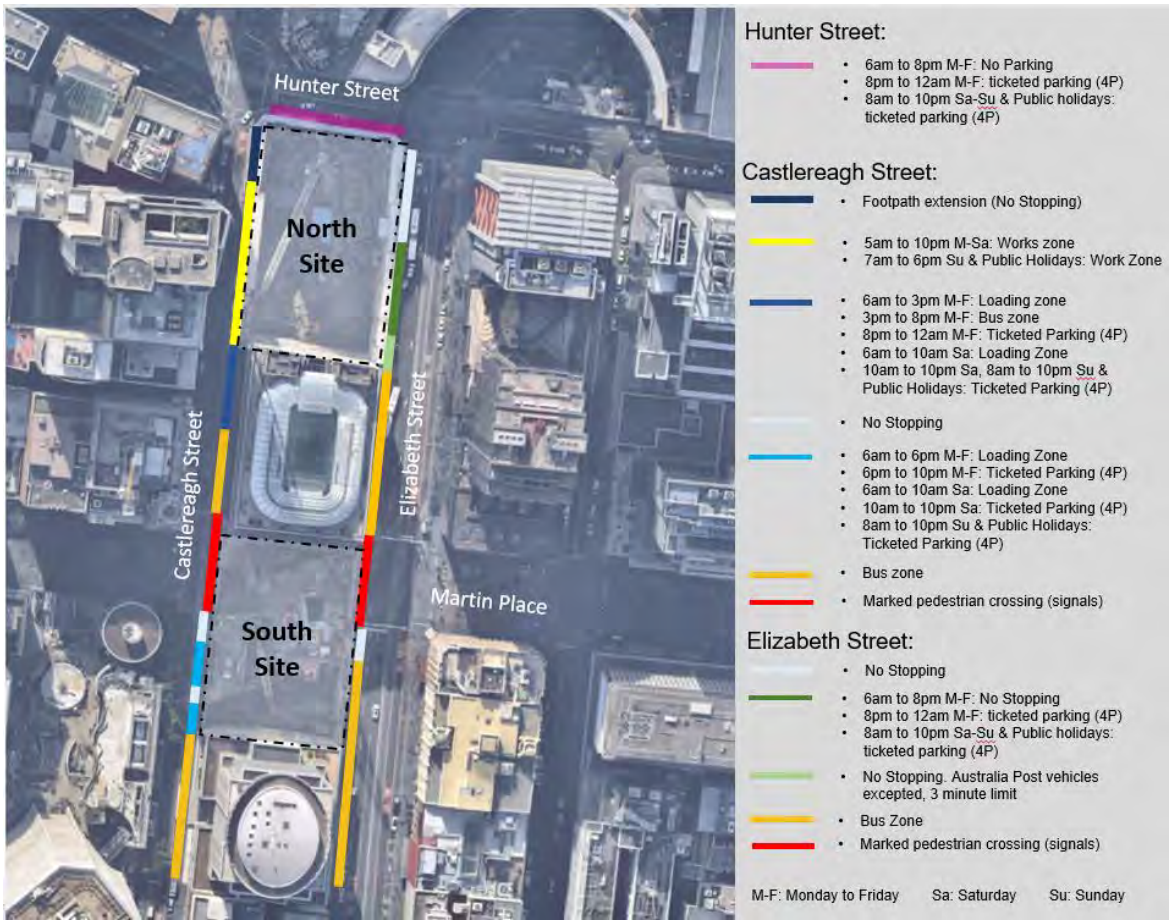
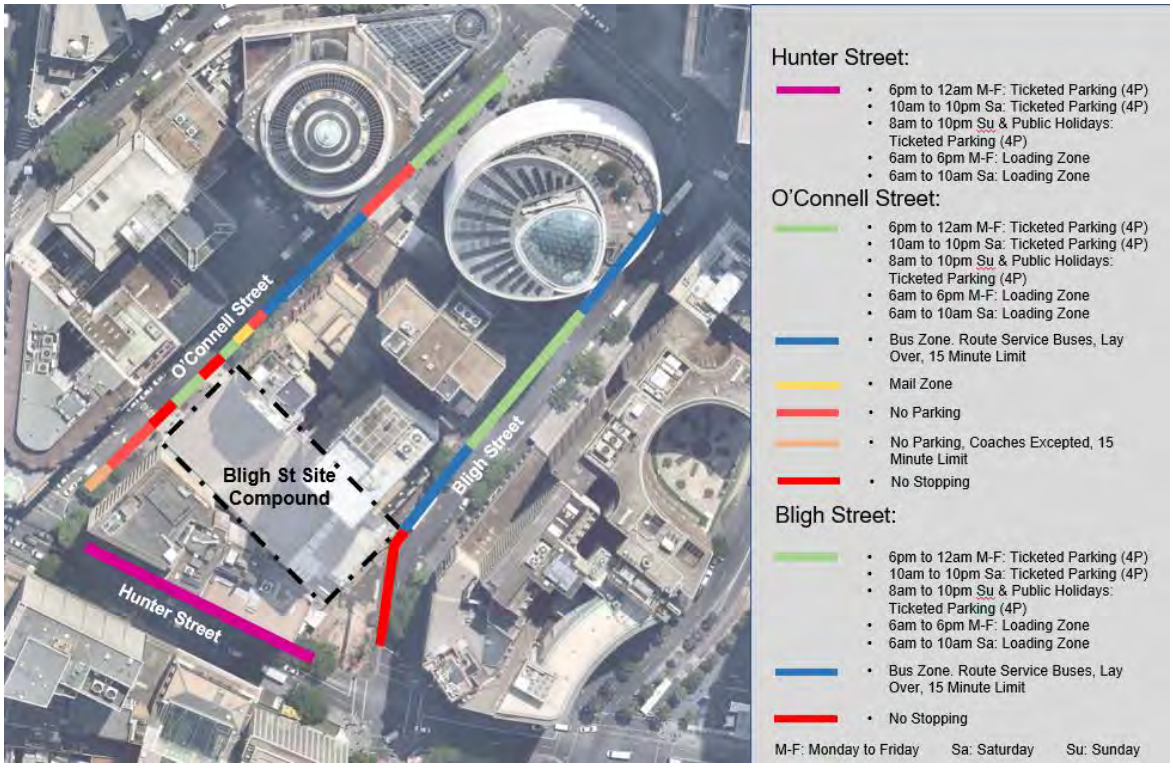


Figure 5.3: Kerbside Uses at Bligh Street Site Compound



5.5 Pedestrian and Cyclist Facilities

Well established pedestrian paths are provided on both sides of all roads in the vicinity of the subject site. The paths surrounding the subject site provide a good level of connectivity in the area and differ in widths as follows:

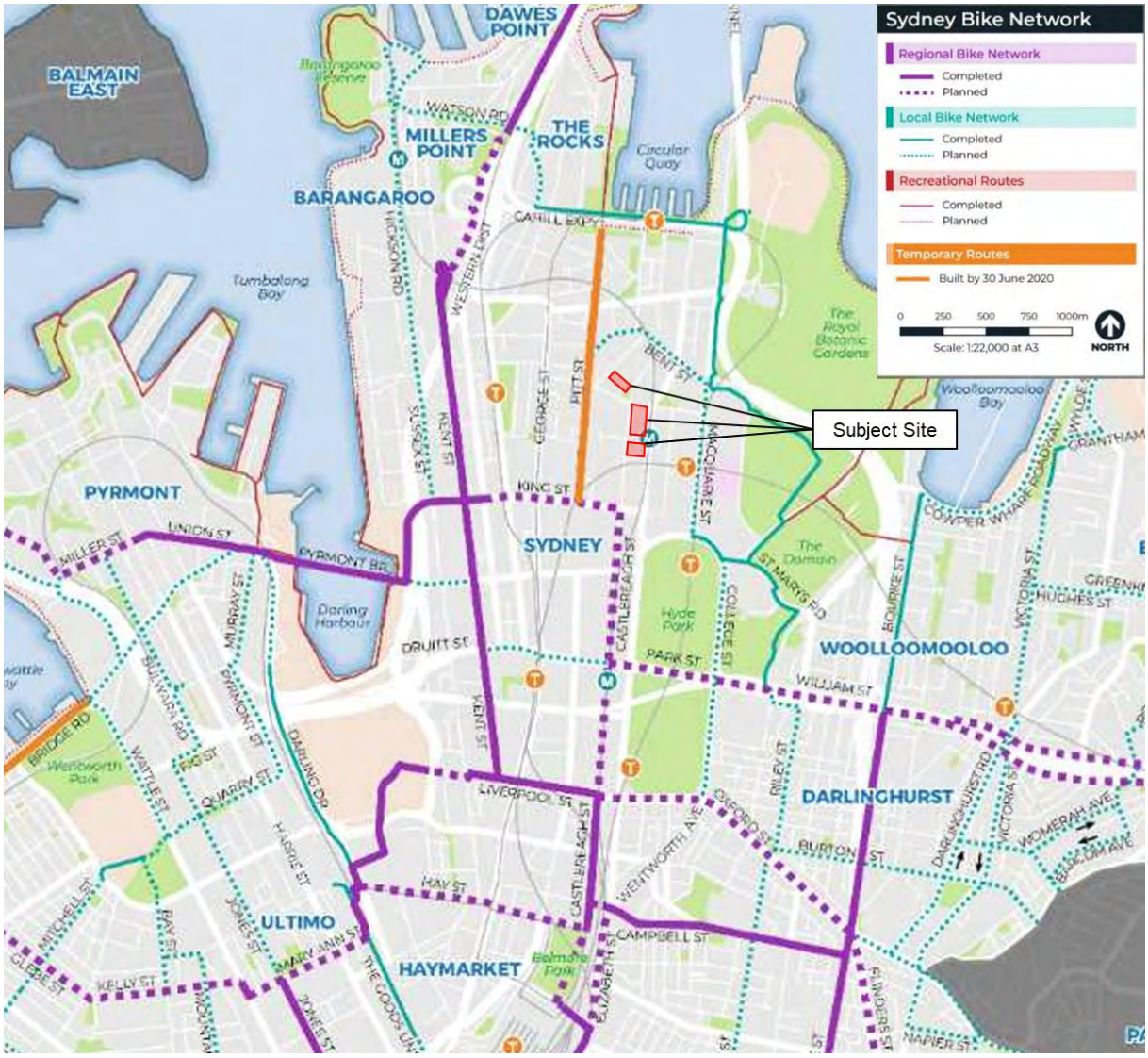
- Elizabeth Street – 3.8m.
- Hunter Street – 7m.
- Castlereagh Street – 3.5 to 5.5m.
- Bligh street – 4m
- O'Connell Street – 3m.

Signalised pedestrian crossing facilities are provided at the intersections immediately surrounding the subject site, respectively, as follows:

- Hunter Street with O'Connell Street
- Hunter Street with Castlereagh Street and Bligh Street
- Hunter Street with Elizabeth Street.
- Martin Place Plaza mid-block crossing on Castlereagh Street.
- Martin Place Plaza mid-block crossing on Elizabeth Street.

It is noted that City of Sydney has installed six temporary cycleways to prioritise cycling as a transport mode in response to the recent COVID -19 pandemic. Surrounding the site, the nearest bicycle routes are located on Pitt Street and Macquarie Street as shown in Figure 5.4.

Figure 5.4: Existing Bicycle Network



Basemap source: City of Sydney

Pedestrian management will be in place at site entry and exit driveways. During weekend periods when pedestrian volumes are substantially reduced it is proposed to divert pedestrians to the western footpath to accommodate plant deliveries and removal at the site frontage. There are no cycling facilities at this location, therefore, there will be no impact to cyclists.

5.6 Public Transport Services

Bus Services

The surrounding local road network is served by a number of bus routes operated by Sydney Buses, linking Sydney CBD with various suburbs across Sydney. Regular services are provided with a frequency of 10–20 minutes for each service during the AM and PM peak periods. Bus routes in the vicinity of the site are shown in Figure 5.4.

A bus lane is provided on Castlereagh Street and Elizabeth Street. These bus lanes operate in the southbound direction. The bus lanes operate between 6:00am-8:00pm Monday to Friday, and 10:00am-6:00pm on Saturday, Sunday and public holidays.

Figure 5.5: Existing Bus Network

Source: Transport for NSW

There will be no long-term impact on public transport. There may be disruptions to bus layover areas where traffic control is implemented, depending on the TCP. Any change or impact to bus layover areas will be coordinated and discussed with SCO, TfNSW and Sydney Buses.

Train Services

The closest train station is Martin Place Station which has a station exit located in Martin Place Plaza approximately 100m and 50m walking distance from the North Site and South Site respectively. Martin Place Station is served by Sydney Trains T4 Eastern Suburbs & Illawarra Line and NSW TrainLink South Coast Line. It provides a key Sydney CBD access point between the eastern suburbs and the southern regions of Sydney. Trains heading in the east and south directions have a service frequency of three minutes during AM and PM peak hours.

Wynyard train station is located a five-minute walk from the site via Hunter Connection. This station serves multiple train lines including the T1 Berowra to City via Gordon, T2 City to Parramatta or Leppington, T3 City to Liverpool or Lidcombe via Bankstown, T4 Bondi Junction to Waterfall or Cronulla, T8 City to Macarthur via Airport or Sydenham, T9 Hornsby to Shorth Shire via City, and CCN Central to Newcastle routes.

Light Rail

The recently constructed Sydney Light Rail project on George Street is open to the public. The nearest light rail station is Wynyard Light Rail Station approximately 450m and 350m walking distance from the North Site and South Site, respectively. The Wynyard Light Rail Station is served by the L2 Randwick Line and L3 Kingsford Line which provides high frequency public transport services to/from Randwick and Kingsford, respectively.

It provides high frequency services to key locations in Sydney CBD such as QVB, Central Station, University of NSW, Sydney Cricket Ground Stadium and Royal Randwick Racecourse.

Taxi Services

The nearest taxi rank is located on the west side of Castlereagh Street, just north of Hosking Place, and is operational 24 hours a day. This taxi rank has space for one taxi.

On the west side of O'Connell Street is a taxi rank with space for two taxis. This taxi zone is located in front of the Radisson Blu Hotel.

At the corner of Elizabeth Street and King Street is a taxi stop, which is signposted as NO STOPPING TAXIS EXCEPTED LIMIT 1 MINUTE.

5.7 Existing Traffic Generation

The office building that was historically located at the North Site offered no off-street loading and car parking facilities. Calculating the traffic generation of a development relies on applying a trip rate per car space. Given that no parking was previously provided as part of the development, the site would have generated no traffic movements.

Similarly, the building historically located at the Bligh Street Site Compound offered no off-street loading or car parking and therefore would have generated no traffic movements on O'Connell Street.

At the South Site, a driveway to a basement level was located off Castlereagh Street. The number of car parking spaces and loading spaces within the basement level is unknown. Notwithstanding, it is expected that the historic commercial-office building at the South Site would have generated a low number of vehicle movements.

5.8 Concurrent Construction Projects

Major projects under construction that are likely to overlap with the proposed construction works of the subject site include the following:

- 50 Bridge Street, *Quay Quarter Tower* involves a partial demolition of the existing commercial tower and podium, and alterations and extensions to the tower to create commercial office and retail space over a podium and a five-level basement car park. The works are expected to be completed in 2022.
- 1-7 Castlereagh Street involves alterations and additions to an existing commercial building including partial demolition of basement, lower ground and ground floors and levels 1 and 2, and construction of a new podium containing new retail and commercial tenancies and reconfigured internal car parking, service and waste areas, and signage.
- 60 Castlereagh Street involves the refurbishment of the Castlereagh Street podium facade, the Castlereagh Street lobby facade, and the Elizabeth Street lobby facade. The refurbishment works are forecasted to be complete in December 2020.
- MLC Centre involves the delivery of 6,000 m2 of retails through a four-story podium. Plans include new retail on Castlereagh and King Streets; a new plaza and food precinct fronting Martin Place; as well as a new commercial tower entrance on Castlereagh Street. The project is expected to be complete in October 2021.
- 44 Martin Place, *Henry Davis York Building* involves the construction of a rooftop two storey addition accommodating two commercial floors, and the creation of a central atrium from lobby to roof level. The works are expected to be completed in April 2021.
- Pitt Street Integrated Station Development (ISD) involves construction of the Sydney Metro Pitt Street Station and two new buildings above it. The project comprises two sites; the north site is bound by Pitt Street, Park Street and Castlereagh Street while the south site is located on the corner of Pitt Street and Bathurst Street. The project is expected to be complete in August 2023.
- Central Station Main Works involves construction of new concourse areas and entrances for Central Station which will link the new metro station and existing platforms. The project is expected to be complete in August 2023.

A summary of the construction traffic generation associated with the above major projects and the cumulative traffic impacts with the subject site are discussed in Section 9.10. Ongoing review of cumulative heavy vehicle traffic generation and coordination of heavy vehicle routes used by such major projects would be undertaken constantly between the Project Team and Sydney Coordination Office to minimise impacts on the road network.

6 Stakeholder Consultation

6.1 During Development of CTMP

A TCG meeting was held on Tuesday 4 December 2018 with City of Sydney, Sydney Coordination Office, RMS, TMC, Sydney Metro, Lendlease and TSE to discuss the North Shaft Construction Works Stage of the project, in particular, heavy vehicle routing via Castlereagh Street and Elizabeth Street. Discussion points presented at the TCG meeting included:

- The internal grade difference within the Martin Place North Site will cause turning difficulties for trucks entering via Castlereagh Street and exiting via Elizabeth Street.
- Post July 2019, there would be in the order of 40 heavy vehicles per day.
- The proposed use of single unit tipper trucks.

The Project Team propose to use single unit tipper trucks with the current site access arrangements (off Castlereagh Street) to overcome the internal grade difference.

It was noted that the purpose for routing through the North Site as per the EIS was to avoid left turns into King Street and Elizabeth Street. A suggestion was made at the TCG meeting to permit some heavy vehicles to enter the North Site via Castlereagh Street and exit via Hunter Street (westbound). The suggestion was considered, however, the Project team concurred that the proposed entry/exit arrangement off Castlereagh Street is the preferred option given that Castlereagh Street has been used consistently in the early works and demolition stages of the project. Furthermore, Castlereagh Street has been used by TSE for over one year as part of demolition works at the South Site.

Another TCG meeting was held on Tuesday 18 December 2018 (attended by the abovementioned organisations) to discuss the cumulative traffic impacts during the North Shaft excavation works. The key points mentioned and discussed were:

- EIS vehicle numbers were evenly split between the north and south sites
- TSE's CTMP for the Tiffany's Building Demolition Works accounts for 100% of EIS heavy vehicle movement estimates.
- SMMP-ISD CTMP program May 2019 – 2023
- TSE CTMP program February 2019 – May 2020.

The heavy vehicle volumes during excavation of North and South Sites would be discussed further between SMMP-ISD and TSEJV to ensure that the traffic volumes generated from the Martin Place precinct do not exceed the EIS traffic volume estimates.

Truck numbers would be in accordance with the EIS for the excavation and station construction works covered in this CTMP. TSE and MPISD contractors will be excavating north and south shafts concurrently and shall work together to identify appropriate truck volumes.

Meeting minutes for both TCG meetings are contained in Appendix B.

6.2 Post CTMP Approval

Formal and ongoing consultation with the authorities would be undertaken following approval of this CTMP. These organisations include City of Sydney, Sydney Coordination Office, Roads and Maritime, TMC, Sydney Light Rail Team within TfNSW. This consultation would also involve TTLG and Traffic Control Groups in the consultation process.

Whenever there are proposed changes to be made to traffic arrangements, the Project Team shall advise, obtain the relevant approval and pay associated fees from the Sydney Metro City & Southwest Project Communications Team, Roads and Maritime, Sydney Coordination Office, Councils, other road authorities, bus & coach operators, taxi operators, NSW Police, NSW Fire & Rescue, NSW Ambulance Service and other key stakeholders. Advice would include information about the changes to the traffic operation, anticipated delays to traffic, any changes to the times and duration of the work, and any other potential major disruptions.

Another TCG meeting was held on Tuesday 28 July 2020 to discuss the proposal for utilising semi-trailers to transport steel reinforcement to the subject site. The key points mentioned and discussed were:

- The pedestrian usage along the haulage route.
- Avoidance of road network during peak and lunch time peak periods.
- Requirement for monitoring the works.
- An on-site trial with a semi-trailer confirming turning capacity at intersections along the haulage route.

The semi-trailer haulage route presented at the TCG meeting included Bent Street, Spring Street, Pitt Street and Hunter Street. Discussion on the impact of the swept path on kerbside parking at Bent Street-Spring Street, the impact to the pop-up cycleway on Pitt Street west side, and the filter right-turn traffic movement and conflicting pedestrian movement on Hunter Street.

Following further review of swept paths at these locations, the semi-trailer haulage route has been amended and replaced with Bent Street and Bligh Street.

Meeting minutes for this TCG meeting is contained in Appendix B.

7 Risk Assessment

This section presents a risk assessment that focuses on the safety risk for workers, including site personnel and traffic controllers, working around live traffic. The risk ratings used in this analysis are based on the consequence and likelihood criteria presented in Table 7.1 and risk matrix provided in Table 7.2. These criteria and matrix have been adopted from the Sydney Metro Principal Contractor Health and Safety Standard Appendix C.

Table 7.1: Consequence & Likelihood Criteria

Consequence Table						
Rating	C6	C5	C4	C3	C2	C1
Descriptor/Impact Area	Insignificant	Minor	Moderate	Major	Severe	Catastrophic
Health and Safety (Injury and Disease)	Illness, first aid or injury not requiring medical treatment.	Illness or minor injuries requiring medical treatment.	Single recoverable lost time injury or illness, alternate/restricted duties injury, or short-term occupational illness.	1-10 major injuries requiring hospitalisation and numerous days' lost, or medium-term occupational illness.	Single fatality and/or 10-20 major injuries/permanent disabilities/chronic diseases.	Multiple fatalities and/or >20 major injuries/permanent disabilities/chronic diseases.

Likelihood Table						
Qualitative Expectation	Quantitative Frequency		SM Probability Analysis	LIKELIHOOD		
Expected to occur frequently during time or activity of project	10 times or more every year	>90%		Almost Certain	L1
Expect to occur occasionally during time or activity of project	1-10 times every year	75-90%		Likely	L2
More likely to occur than not during time of activity occur or project	Once each year	50-75%		Possible	L3
More likely not to occur than occur during time of activity of project	Once every 1 to 10 years	25-50%		Unlikely	L4
Not expected to occur during the time of activity or project	Once every 10 to 100 years	10-25%		Rare	L5
Not expected to ever occur during time of activity or project	Less than once every 100 years	<10%		Alost Unprecedented	L6

Source: SM PS-ST-221 Sydney Metro Principal Contractor Health and Safety Standard v2.0

Table 7.2: Risk Matrix

Risk Rating A – Very High B – High C – Medium D – Low			Consequence					
			Insignificant	Minor	Moderate	Major	Severe	Catastrophic
			C6	C5	C4	C3	C2	C1
Likelihood	Almost certain	L1	C	B	B	A	A	A
	Likely	L2	C	C	B	B	A	A
	Possible	L3	C	C	B	B	A	A
	Unlikely	L4	C	C	B	B	B	A
	Rare	L5	D	C	C	B	B	A
	Almost unprecedented	L6	D	D	C	C	B	B

Source: SM PS-ST-221 Sydney Metro Principal Contractor Health and Safety Standard v2.0

The combination of likelihood and severity generates a risk index between A (very high) to D (low). Risk evaluation must be concluded by identifying whether or not action is required based on the risk acceptability criteria presented in Table 7.3.

Table 7.3: Risk Acceptability Criteria

Class A – Very High	Risks that significantly exceed the risk acceptance threshold and need urgent and immediate attention.
Class B – High	Risks that exceed the risk acceptance threshold and require proactive management.
Class C – Medium	Risks that lie on the risk acceptance threshold and require active monitoring.
Class D – Low	Risks that are below the risk acceptance threshold and do not require active management.

Source: SM PS-ST-221 Sydney Metro Principal Contractor Health and Safety Standard v2.0

Table 7.4 identifies the risks related to personnel working around live traffic on this project.

Table 7.4: Risk Assessment

Potential Hazards	Consequence	Likelihood	Risk Rating	Controls Implemented	Revised Risk Rating
Traffic on Surrounding Roads					
Traffic controller exposure to road rage/ aggression	Insignificant	Unlikely	C	Traffic controllers will not approach or halt drivers unexpectedly which could have caused drivers to react aggressively due to suddenness. Vehicles already on the road would have the 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 controllers.	D
Traffic controller being struck or injured by vehicle running off the road	Major	Rare	B	Surrounding streets are signposted and linemarked as 40km/h (due to the CBD-wide 40km/h speed limit). Site personnel/ traffic controllers will stand on the footpath, clear of roadways and driveways unless when required to manage traffic and pedestrians momentarily. Personnel will be instructed to be cautious of their surroundings and report any errant driver behaviour to Police that is observed on surrounding streets. Drivers travelling at speeds above the enforceable speed limit would be breaking the law, and is a matter to be dealt with by the local area command (police) that patrol surrounding streets.	C
Fatigued Workers (Site Personnel/ Traffic Controllers)					
Occurrence of micro-sleeps therefore more likely for incidents to occur	Insignificant	Unlikely	C	At morning toolbox talks, the Site Supervisor will look out for unrested site personnel and refuse entry to site for employees who are not fit for work. Throughout work shifts, breaks and rest periods will be allocated to site personnel in-line with awards and enterprise agreements required by the Work Health and Safety Act 2011.	C
Less attentive/ reduced concentration therefore more likely to make mistakes	Insignificant	Unlikely	C	Breaks and rest periods will be allocated to site personnel in-line with awards and enterprise agreements required by the Work Health and Safety Act 2011.	C

Prolonged exposure to noise	Insignificant	Unlikely	C	Site personnel will be equipped with PPE, including ear protection (e.g. ear plugs). Also, breaks and rest periods will be allocated to site personnel in-line with awards and enterprise agreements required by the Work Health and Safety Act 2011.	C
Fatigued Drivers					
Less attentive/ reduced concentration therefore more likely to make mistakes	Insignificant	Unlikely	C	Site personnel/ traffic controllers will be equipped with PPE, including high visibility clothing and footwear which will enhance visibility to motorists. Traffic controllers will be equipped with reflective Stop/Slow bat and illuminated wand which would be visible in daytime and night time conditions. Site personnel/ traffic controllers will stand on the footpath, clear of roadways and driveways unless when required to manage traffic and pedestrians momentarily. Personnel will be instructed to be cautious of their surroundings and report any errant driver behaviour to Police that is observed on surrounding streets.	C
Occurrence of micro-sleeps therefore more likely for incidents to occur	Insignificant	Unlikely	C	Site personnel/ traffic controllers will stand on the footpath, clear of roadways and driveways unless when required to manage traffic and pedestrians momentarily. Personnel will be instructed to be cautious of their surroundings and report any errant driver behaviour to Police that is observed on surrounding streets. Driver fatigue is a matter to be dealt with by the local area command (police) that patrol surrounding streets.	C
Night works					
Drivers are slower to react to signage, site personnel/ traffic controllers, plant etc.	Minor	Rare	C	Site personnel/ traffic controllers will be equipped with PPE, including high visibility clothing and footwear which will enhance visibility to motorists. Traffic controllers will be equipped with reflective Stop/Slow bat and illuminated wand which would be visible in daytime and night time conditions. Work areas and site accesses will be well-lit by lighting installed on hoardings and portable light towers. Existing street lighting will be relied upon for lighting of adjacent roads. Surrounding streets are signposted and linemarked as 40km/h (due to the CBD-wide 40km/h speed limit).	D
Lower traffic volumes may lead to higher vehicle speeds on surrounding roads	Major	Rare	B	Surrounding streets are signposted and linemarked as 40km/h (due to the CBD-wide 40km/h speed limit). Site personnel/ traffic controllers will stand on the footpath, clear of roadways and driveways unless when required to	C

				manage traffic and pedestrians momentarily. Personnel will be instructed to be cautious of their surroundings and report any errant driver behaviour to Police that is observed on surrounding streets. Drivers travelling at speeds above the enforceable speed limit would be breaking the law, and is a matter to be dealt with by the local area command (police) that patrol surrounding streets.	
Motorists' behaviour on surrounding roads may be impacted by drugs and alcohol	Major	Rare	B	Site personnel/ traffic controllers will stand on the footpath, clear of roadways and driveways unless when required to manage traffic and pedestrians momentarily. Personnel will be instructed to be cautious of their surroundings and report any errant driver behaviour to Police that is observed on surrounding streets. Drivers travelling under the influence of drugs and alcohol would be breaking the law, and is a matter to be dealt with by the local area command (police) that patrol surrounding streets.	C
Visibility is reduced for workers, increasing human reaction time if an incident occurs	Insignificant	Unlikely	C	Work areas and site accesses will be well-lit by lighting installed on hoardings and portable light towers. Existing street lighting will be relied upon for lighting of adjacent roads.	D
Environmental factors					
Vehicle stopping distance increased on wet roads, reducing recovery opportunity for the driver of an errant vehicle	Moderate	Unlikely	B	Surrounding streets are signposted and linemarked as 40km/h (due to the CBD-wide 40km/h speed limit). It is presumed that surrounding streets have been speed limited appropriately having consideration for various road conditions (dry, wet, day, night etc.). As a general road rule, drivers are also advised to slow down in wet weather conditions.	C
Poor lighting decreases visibility for drivers and workers which makes it harder to identify and react to hazards.	Minor	Rare	C	Site accesses and work areas will be well-lit by lighting installed on hoardings and portable light towers. Existing street lighting will be relied upon for lighting of adjacent roads.	D

In light of the above implemented controls, safety risks for site personnel and traffic controllers working around live traffic are significantly reduced. Without controls, risk rating range between B and C levels (i.e. high to medium). The introduction of controls would reduce risk ratings to between C and D levels (i.e. medium to low).

A shift in risk ratings are achievable due to the implementation of control measures as follows:

- Allocation of breaks and rest periods to site personnel in-line with in-line with awards and enterprise agreements required by the Work Health and Safety Act 2011.
- Provision of PPE, including high visibility clothing and footwear, reflective Slow/ Stop bats, illuminated wands for traffic control, and ear protection.
- Provision of lighting in work areas and at site accesses.
- Presence of Supervisorial oversight of workers who are fatigued and not fit for work.
- Site personnel/ traffic controllers will stand clear of trafficable areas unless when required to manage traffic and pedestrians momentarily.
- Personnel will move cautiously and diligently while working around live traffic, and be aware of atypical driver behaviour. Where errant driver behaviour is observed on surrounding streets, personnel will report to Police who would take action to mitigate errant behaviour.

In-line with Table 7.3, hazards with a D level risk rating are below the risk acceptance threshold and do not require active management while those with a C rating will be actively monitored by the Project Manager and Site Supervisor.

Safety risks for site personnel and traffic controllers working near live traffic would be either mitigated or managed using controls identified in Table 7.4. As addressed by this risk assessment, the use of traffic controllers is reasonably practicable, and thus, temporary traffic signalling devices would not be required on Castlereagh Street and Elizabeth Street.

Site personnel/ traffic controllers will stand on the footpath, clear of roadways and driveways unless when required to manage traffic and pedestrians momentarily. The implementation of controls as per in Table 7.4 would reduce the risk of a worker being struck by an errant vehicle from B to C. These controls would be actively monitored by the Project Manager and Site Supervisor to ensure that safety risks are maintained to a low level.

Therefore, physical protection from the risk of being struck by errant vehicles using road safety barriers or engineer-certified crash attenuators would not be required for site personnel and traffic controllers working near live traffic.

8 Methodology

8.1 Description

Construction works would be sequenced to maximise the safety of workers and road users, maintain existing capacity, minimise road user delays and avoid major activities during peak periods. Construction works would be carried out during the approved work hours as set out in the Consent Conditions. Such works would not impact traffic flows on streets in the surrounding local road network.

B-class hoarding currently surrounds the North Site while A-class hoarding surrounds the South Site. Details pertaining to the change of A-class hoarding to B-class hoarding on the perimeter of the South Site would be provided in a separate application by the contractor. Relevant permits required for hoarding installation would be sought prior to any works taking place.

8.2 Duration and Staging of Works

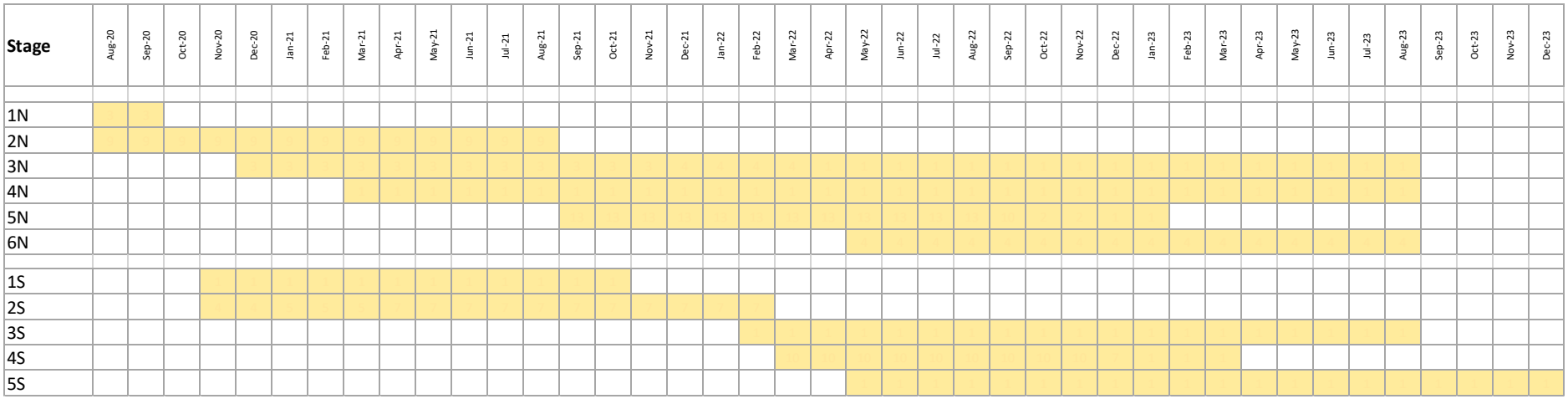
Construction works are to be carried out over a duration of 55 months with an estimated completion date at the end of December 2023, The timeline of work activities is summarised in Table 8.1. The project timeline, from the time of preparation of this revision of the CTMP until the end of the project, is shown in Figure 8.1.

It is noted that the excavation of the South Site was being completed by TSE and handed over to Lendlease on 2 November 2020.

Table 8.1: Staging and Duration

Stage	Activities	Start Date	Finish Date (inclusive)	Duration
1N	North Shaft Bulk Excavation	June 2019	September 2020	16 mo
2N	North Station Structure	July 2020	August 2021	14 mo
3N	North Station Caverns	December 2020	August 2023	33 mo
4N	North Station Fit-out	March 2021	August 2023	30 mo
5N	North OSD Structure	September 2021	January 2023	17 mo
6N	North OSD Fit-out	May 2022	August 2023	16 mo
1S	South Shaft Tunnelling	November 2020	October 2021	13 mo
2S	South Station Structure	November 2020	February 2022	16 mo
3S	South Station Fit-out	February 2022	August 2023	19 mo
4S	South OSD Structure	March 2022	March 2023	13 mo
5S	South OSD Fit-out	May 2022	December 2023	20 mo
Total		June 2019	December 2023	55 months

Figure 8.1: Project Timeline



8.3 Hours of Operation

The standard working hours have been defined in the CSSI consent conditions as:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm
- Sunday: No work
- Public Holidays: No work.

Activities during the normal works period shall be undertaken during the approved hours (under the COVID-19 amendment to construction hours as per below):

- 5am to 10pm – Monday to Saturday
- 7am to 6pm – Sunday.

As per the latest Community Agreement notification (dated October 2020), the following extended hours can be worked at the North, South and Bligh Street sites from 2 November 2020 to 31 December 2023 for station construction and fit out works:

- Martin Place North and Bligh Street sites: 5am to 10pm, Monday to Saturday
- Martin Place South site: 6am to 10pm, Monday to Saturday.

COVID- 19 Amendment to Construction Hours

Works may also be undertaken on Sundays and Public Holidays between 7am to 6pm under the Environmental Planning and Assessment (COVID-19 Development – Infrastructure Construction Workdays) Order 2020. This order may be revoked by the NSW Government in response to COVID-19 measures.

Community Agreements

To gain extended working hours, community agreement is required. Lendlease Stakeholder and Community Liaison Team shall consult with the local community to gain approval.

B3 Concourse Link tunnelling will be carried out 24 hours a day, 7 days a week as per Condition E48 of the Sydney Metro City & Southwest Chatswood to Sydenham Conditions of Approval. Further conditions for tunnelling works hours included in Schedule A23 of the Station D&C Deed also restrict noisy tunnelling activities between 6pm and 8am Monday to Friday, and all day on weekends.

Hours of operation may be amended in consultation with SCO, RMS and relevant stakeholders in accordance with CSSI conditions E38, E44, E46 and E47 or as otherwise approved by the relevant authorities.

As per the latest Community Agreement notification (dated October 2020), the following extended hours can be worked at the North, South and Bligh Street sites from 2 November 2020 to 31 December 2023 for station construction and fit out works:

- Martin Place North and Bligh Street sites: 5am to 10pm, Monday to Saturday
- Martin Place South site: 6am to 10pm, Monday to Saturday.

The following 24-hour activities will take place; dewatering, ventilation, hoist maintenance, material deliveries, station and tunnel fit out and service installation and commissioning.

Construction activities can be carried out during in-line with the hours specified in Table 8.2.

Table 8.2: Timeframe of Construction Activities

Timeframe Outside Standard Work Hours	Construction Activity
Monday – Saturday 5am - 6am	• Site, plant and equipment set up • Material deliveries and spoil haulage • Tower crane and hoist operations
Monday – Saturday 6am - 7am	• Material deliveries and spoil haulage • Concrete pours • Tower crane and hoist operation • General construction works
Monday – Saturday 6pm - 10pm	• Material deliveries and spoil haulage • Concrete pours and finishing • Tower crane and hoist operation • General construction works • Structural steel installation
Respite periods Monday – Saturday 5am - 8am, 12pm -1pm, and 8pm-10pm	• No high impact noise or vibration activities (jack hammering, rock breaking, vibratory rolling, other work occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics).

The latest Community Agreement notification has been included in Appendix G.

8.4 Site Access

Vehicular access to the North Site and South Site is proposed to be via both Castlereagh Street (east side) and Elizabeth Street (west side). They have been deemed as the most appropriate streets for providing access for vehicles at each site whilst impact on the surrounding local network is minimised. Vehicular access to the Bligh Street Site Compound is via O'Connell Street via northern and southern ramps. Impacts on pedestrians, cyclists, buses, general traffic, parking, loading, and access points for each stage of works are described herein.

Traffic controllers employed across all stages of the project will hold an RMS approved Traffic Controller's license (formerly known as the Blue Card – Stop/Slow bat). In addition to the minimum required Personal Protective Equipment (PPE) as specified in the Sydney Metro Principal Contractor Health and Safety Standard traffic controllers will wear high visibility clothing and footwear in accordance with Section 8 of AS 4602. This includes trousers fitted with double-reflective stripes or reflective boot covers. Traffic controllers working at night will be equipped with illuminated wands to direct traffic.

Access Arrangement at the North Shaft Site

The vehicular ingress and egress are proposed to be separated and located off Castlereagh Street some 20m and 40m south of Hunter Street, respectively. There is currently a driveway layback at the proposed ingress and egress locations which are separated by approximately 8m. Construction vehicles would turn left-in or left-out off Castlereagh Street, moving in a forward direction. A temporary loading area within the North Site will be implemented when the structure is past Level 3. Trucks will enter and exit the site via separate ingress and egress gates off Elizabeth Street.

The road network capacity would not be reduced as the proposed access point is on the departure side of the Castlereagh Street/ Hunter Street intersection. As such, the traffic signals would generate sufficient gaps in traffic to enable heavy vehicles to safely exit the site via Castlereagh Street. A traffic controller would be located on Elizabeth Street to assist truck egress movements by finding suitable gaps in traffic.

At vehicular crossings off Castlereagh Street and Elizabeth Street, visibility towards pedestrians approaching from the south exceeds the 55m desirable sight distance requirement as per AS2890.1:2004. Visibility towards pedestrians approaching from the north extends to Hunter Street. Under any circumstance, pedestrian movements on the footpath across the site access would be managed by traffic controllers and concertina gates (as detailed in Section 8.10). No permanent sight obstruction is located within this sight distance. Therefore, it is deemed as satisfactory.

The longest construction vehicle to access the site via Castlereagh Street would be a 9.4m rigid vehicle and a 12.5m rigid vehicle via Elizabeth Street. A swept path analysis has been undertaken which shows that these vehicles are able to adequately access the site. Swept paths are provided in Appendix C.

Access Arrangement at the Bligh Street Site Compound

The Bligh Street Site Compound will be utilised by Lendlease for the construction of the Martin Place Metro Station, North Tower and South Tower following handover of the compound from TSE in December 2020. A concrete pumping yard will be established within the Bligh Street Site Compound.

Vehicles accessing the Bligh Street Site Compound would continue to enter and exit the site in a forward direction by turning left-in and left-out from O'Connell Street. The largest vehicle to access the site would be a 12.5m heavy rigid vehicle. A swept path analysis has been undertaken, and shows that this vehicle is able to adequately access the site. Swept paths are provided in Appendix C.

The driveways off O'Connell Street have sufficient visibility towards pedestrians and exceeds the 55m desirable sight distance requirement as per AS2890.1:2004. Therefore, it is deemed as satisfactory. No permanent sight obstruction is located within this sight distance.

Access Arrangement at the South Shaft Site

A separated vehicular ingress and egress driveway will be used off Castlereagh Street east side. Lendlease will utilise the existing crossovers installed by TSE while the platform (internal to the site) is in use. The driveways are located approximately 6m and 25m south of the northern site boundary. Construction vehicles would turn left-in or left-out off Castlereagh Street, moving in a forward direction.

Refer to Appendix C for the swept path assessment of the design vehicle.

The proposed site access arrangement at the South Site is deemed satisfactory given that:

- The proposed access driveway would be on the departure side of the Castlereagh Street/ Martin Place Plaza mid-block signals. As such, the traffic signals would generate sufficient gaps in traffic to enable construction vehicles to safely exit the site.
- Trucks exiting the site via the proposed access driveway would have good visibility to oncoming traffic and would not pose any traffic safety issues.
- A traffic controller would be located at the site access to manage all movements at the driveway, minimising the potential for any conflicts due to site-generated traffic.

8.5 Traffic Staging Plans

Crane Installation

It is proposed to temporarily close the two eastern traffic lanes on Castlereagh Street adjacent to the South Site for the crane installation at the South Site (STC1). The temporary closure would occur on Sunday 21 November 2020. Plans showing the location of the tower crane and deliveries are contained in Appendix D.

As a contingency, due to any delays on the day caused by inclement weather etc., the crane installation can be stopped at any stage during the installation and left in a safe condition. The only exception would be the assembly and installation of the boom, which the Supervisor will ensure adequate conditions and time to be able to complete this. The back-up installation date would be for the following Sunday.

As per approved council road closure approval (Appendix D), works are permitted to commence on Sunday 00:01 until Sunday 23:59.

All stages pertaining to the North Shaft site

Use of existing vehicular crossings would not alter the lane configuration in Castlereagh Street. Two vehicular crossings are currently located side-by-side at the North Site access which are separated by a raised kerb approximately 1m in length. It is proposed to join the vehicle crossings to form a single ingress driveway to access the platform within the site.

Figure 8.2 illustrates the traffic staging plan for the proposed site access location where the platform would be located within the site. The platform would be accessed off Castlereagh Street and could accommodate two trucks at one time. The proposed temporary driveway would be 6m in width with 0.45m splays.

The platform (accessed off Castlereagh Street) would remain during this period, functioning as a truck marshalling area as a contingency.

As part of the earlier construction stages for this project, a work zone is located in the eastern kerbside lane on Castlereagh Street. The work zone will operate between 5am-10pm Monday to Saturday and 7am-6pm on Sunday in accordance with the hours of construction. Work zone times may be amended in consultation with the relevant stakeholders. The bus zone that was previously located in place of the work zone has been relocated to the western kerbside lane on Castlereagh Street as per the approval for an earlier revision of this CTMP.

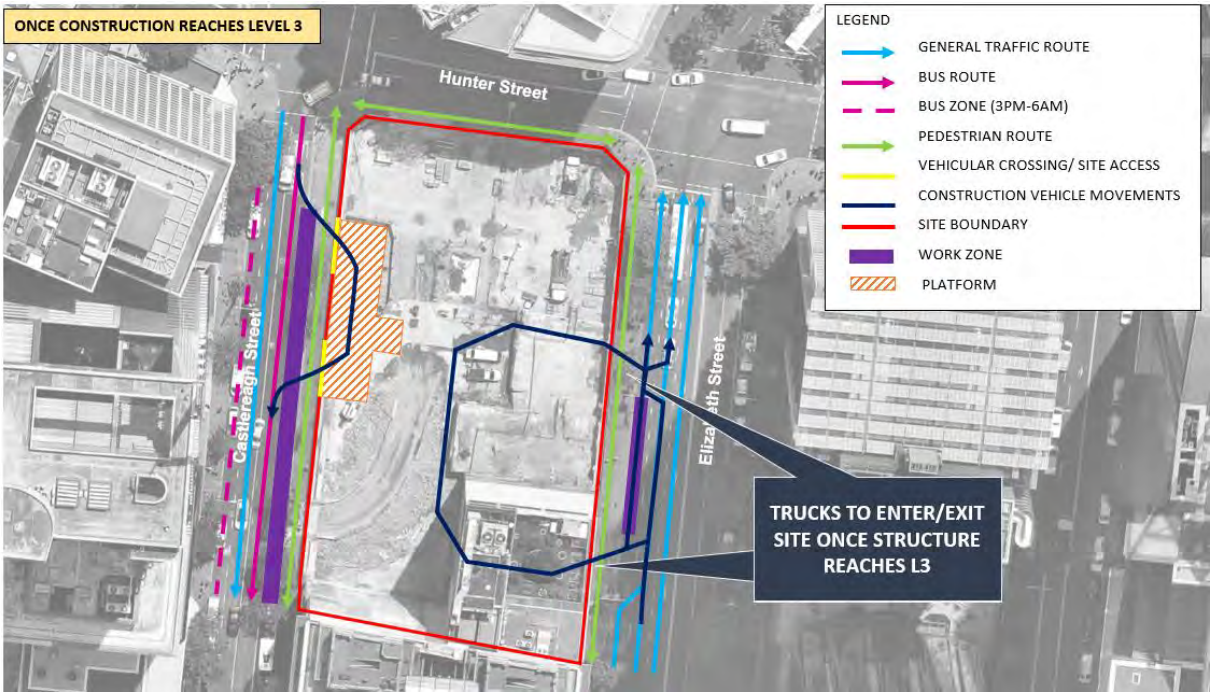
A pedestrian footpath is located around the site periphery (excluding the southern boundary). Driveways and footpaths have been provided in accordance with City of Sydney's specifications.

No changes to pavement markings are being proposed. General traffic and cyclist movements would not be altered.

A temporary loading area within the North Site will be implemented when the structure is past Level 3. Trucks will enter and exit the site via separate ingress and egress gates off Elizabeth Street as shown in Figure 8.2. At this time, a work zone will be proposed on Elizabeth Street adjacent to the North Site. Operation of the work zone is proposed during the off-peak period between the AM and PM peak periods. The work zone would be located in the kerbside lane between the site ingress and egress driveways off Elizabeth Street as shown in Figure 8.2.

Operation of the work zone is proposed during off-peak periods when traffic volumes and bus movements are reduced. Notwithstanding this, consultation with SCO, TfNSW and STA buses will be carried out to ensure any noticeable impacts to traffic and buses travelling on Elizabeth Street are mitigated.

Figure 8.2: North Shaft Site Traffic Staging Plan



During the period when construction trucks are removing spoil from the North Site via the Bligh Street Site Compound, trucks will utilise the haulage route that is shown Figure 8.11. Ingress and egress movements to the Bligh Street site will be via O'Connell Street which would provide material benefit to traffic movements and pedestrian interface across Castlereagh Street and Elizabeth Street. It is noted that this haulage route has been approved by SCO and RMS.

In the event that vehicles are not able to access the Bligh Street Site Compound, vehicles are to revert to using the staging plan as indicated in Figure 8.2.

All works required for the operation of the site were completed under the following CTMP:

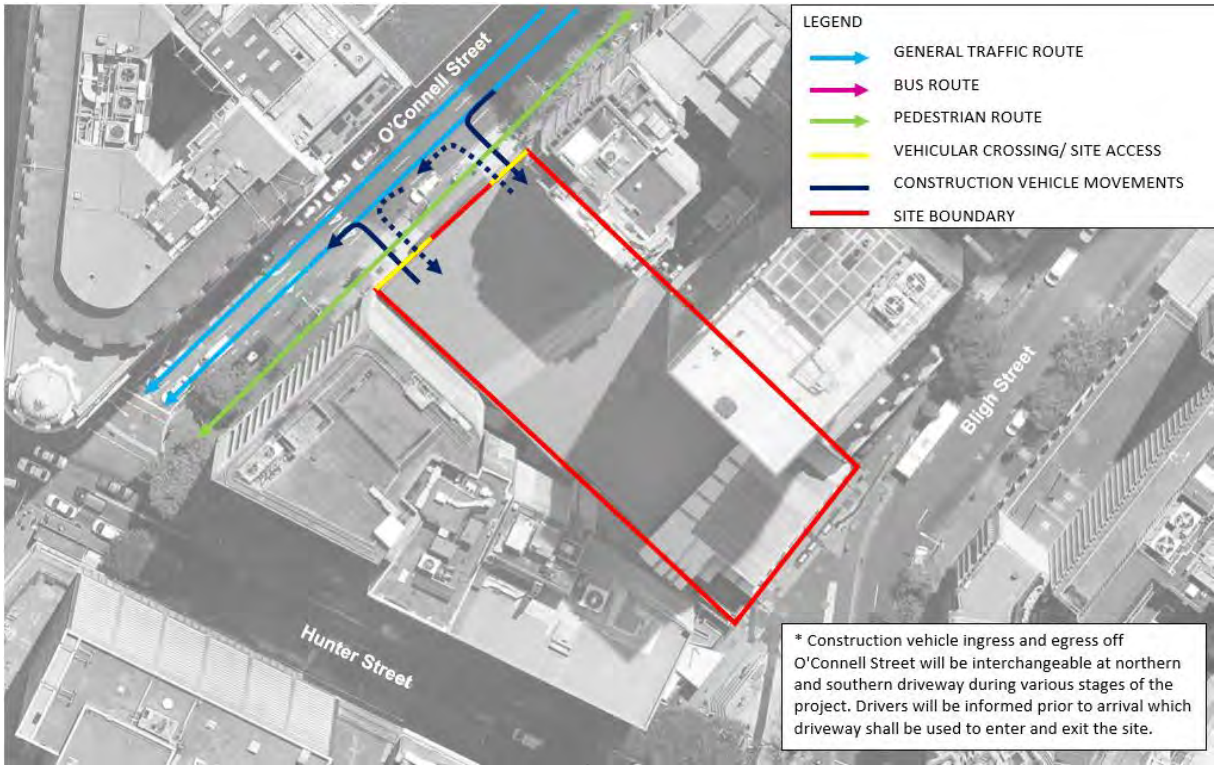
- SMCSWTSE-JCG-SMP-TM-PLN-002264 Bligh St SE Stage 1 and
- SMCSWTSE-JCG-SMP-TM-PLN-002264-C Bligh St SE Stage 2.

Maintenance of those existing facilities and deliveries over the duration of the operations may require intermittent lane closures. The existing vehicular crossovers will be retained for the follow-on contractor post completion of this stage of works.

The key activities to be carried out at the Bligh Street Site Compound are:

- Construction of the North Tower structure including concrete pumping from the Bligh Street Site Compound,
- Construction of the Cavern Structure, and
- Fit-out of the Station.

Figure 8.3: Bligh Street Site Traffic Staging Plan



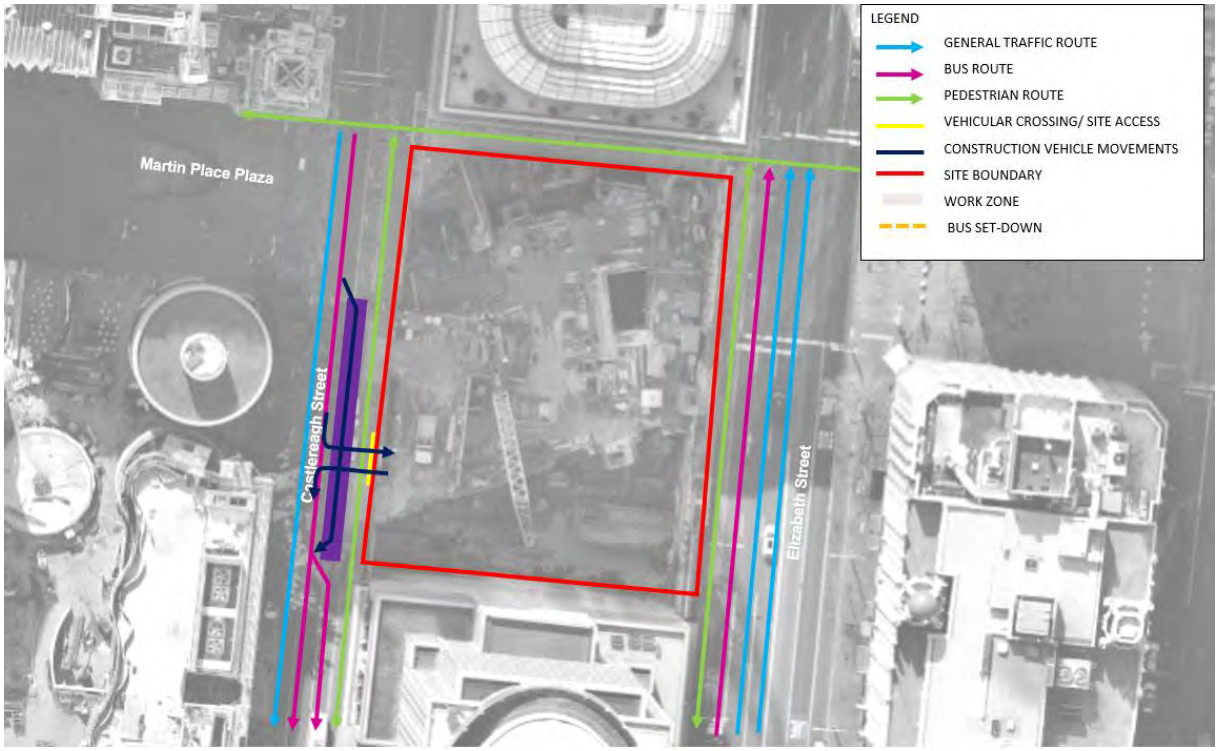
All stages pertaining to the South Shaft site

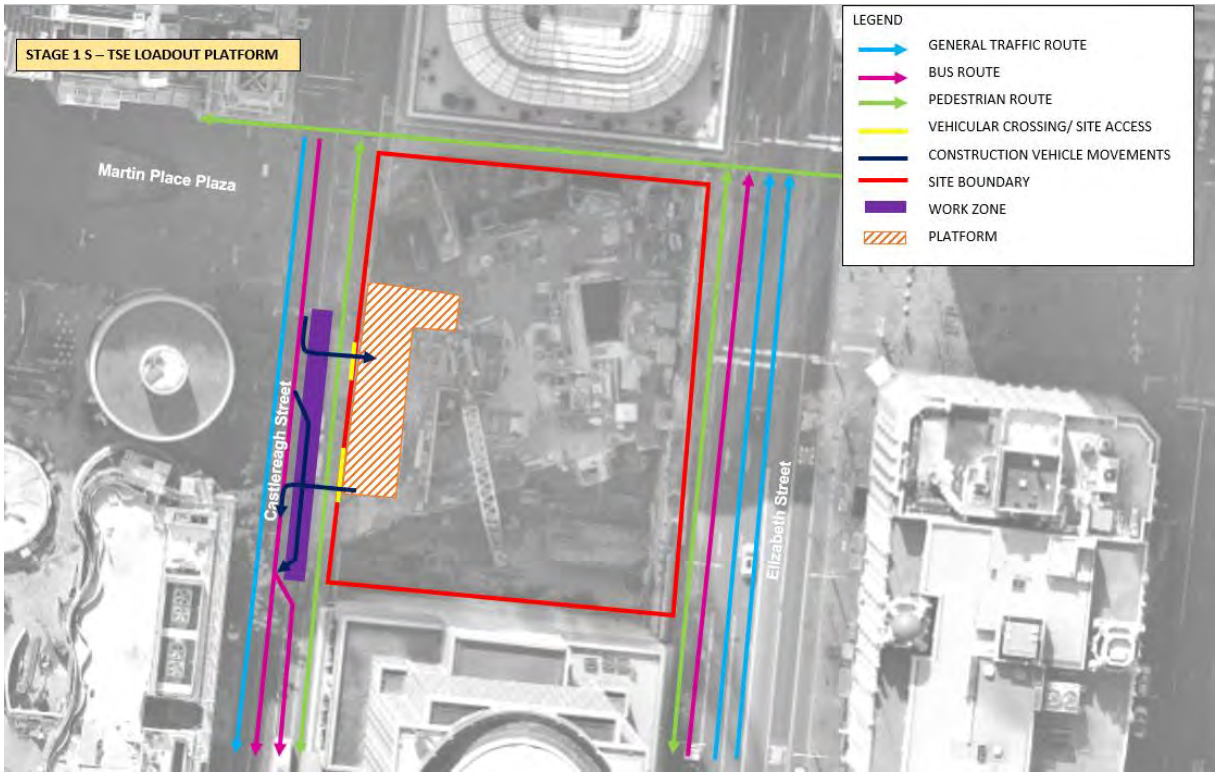
Figure 8.4 shows the traffic staging plans of the proposed site access and work zones for construction activities at the South Shaft site. The proposed work zones on Castlereagh Street (east side) and Elizabeth Street (west side) would not affect the general traffic and bus movements as the kerbside lanes along the site frontages are utilised as loading zones and bus zone set downs, respectively.

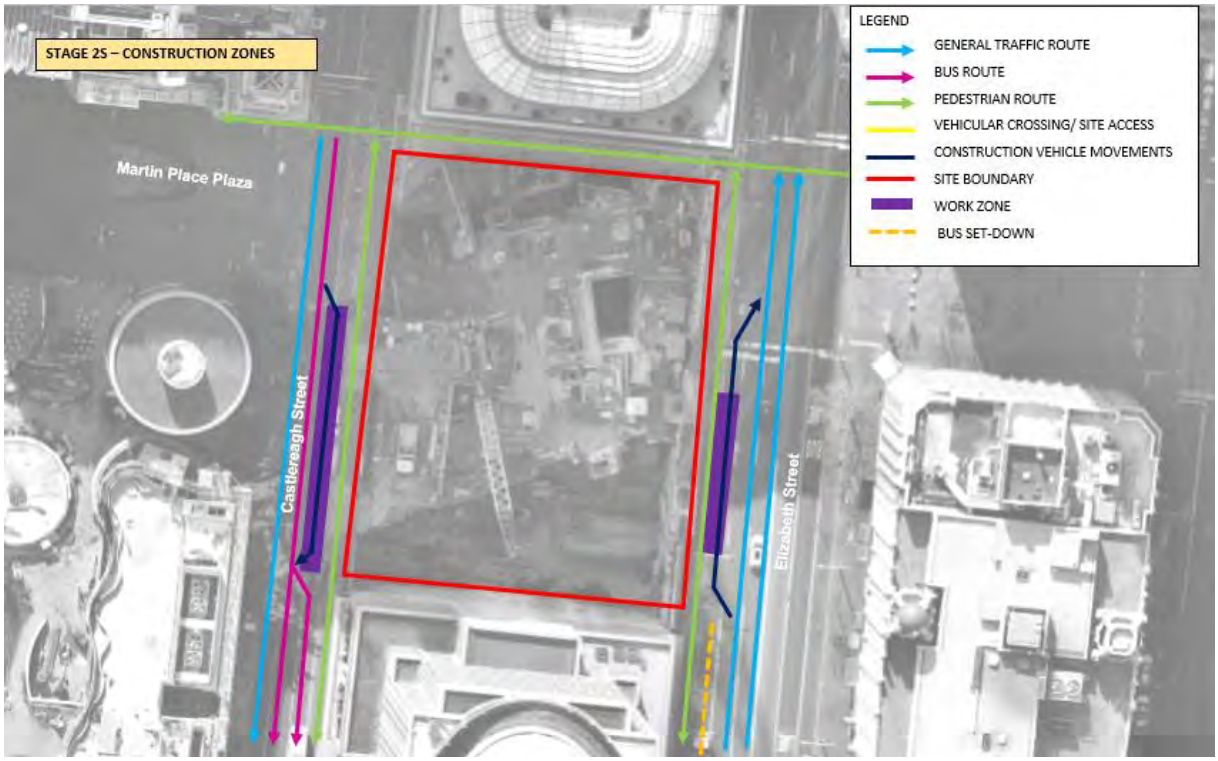
Pedestrian movements on Castlereagh Street, Elizabeth Street and Martin Place Plaza would not be altered.

A work zone is proposed in the eastern kerbside lane on Castlereagh Street adjacent to the South Site. The work zone will operate between 5am-10pm Monday to Saturday and 7am-6pm on Sunday. Work zone times may be amended in consultation with the relevant stakeholders. The loading zone that was previously operating in place of the work zone (Monday to Saturday) would be removed. Similarly, 4P ticketed parking periods between Monday-Saturday are proposed to be removed, however, parking on Sunday and public holidays would be permitted between 6pm-10pm.

Figure 8.4: South Shaft Site Indicative Traffic Staging Plan




STAGE 1 S – TSE LOADOUT PLATFORM
Martin Place Plaza
Castlereagh Street
Elizabeth Street
LEGEND
GENERAL TRAFFIC ROUTE
BUS ROUTE
PEDESTRIAN ROUTE
VEHICULAR CROSSING/ SITE ACCESS
CONSTRUCTION VEHICLE MOVEMENTS
SITE BOUNDARY
WORK ZONE
PLATFORM


STAGE 2S – CONSTRUCTION ZONES
Martin Place Plaza
Castlereagh Street
Elizabeth Street
LEGEND
GENERAL TRAFFIC ROUTE
BUS ROUTE
PEDESTRIAN ROUTE
VEHICULAR CROSSING/ SITE ACCESS
CONSTRUCTION VEHICLE MOVEMENTS
SITE BOUNDARY
WORK ZONE
BUS SET-DOWN


STAGE 3S – CONCRETE LOADING AT LOWER GROUND
Martin Place Plaza
CONCRETE TRUCKS TO ENTER BUILDING INTO CONCRETE PUMPING AREA ON LG
Castlereagh Street
Elizabeth Street
LEGEND
GENERAL TRAFFIC ROUTE
BUS ROUTE
PEDESTRIAN ROUTE
VEHICULAR CROSSING/ SITE ACCESS
CONSTRUCTION VEHICLE MOVEMENTS
SITE BOUNDARY
WORK ZONE
BUS SET-DOWN


STAGE 5S – BUILDING LOADING DOCK
Martin Place Plaza
TRUCKS TO ENTER/EXIT VIA FINAL BUILDING LOADING DOCK
Castlereagh Street
Elizabeth Street
LEGEND
GENERAL TRAFFIC ROUTE
BUS ROUTE
PEDESTRIAN ROUTE
VEHICULAR CROSSING/ SITE ACCESS
CONSTRUCTION VEHICLE MOVEMENTS
SITE BOUNDARY
WORK ZONE
BUS SET-DOWN

8.6 Traffic Generation

North Site

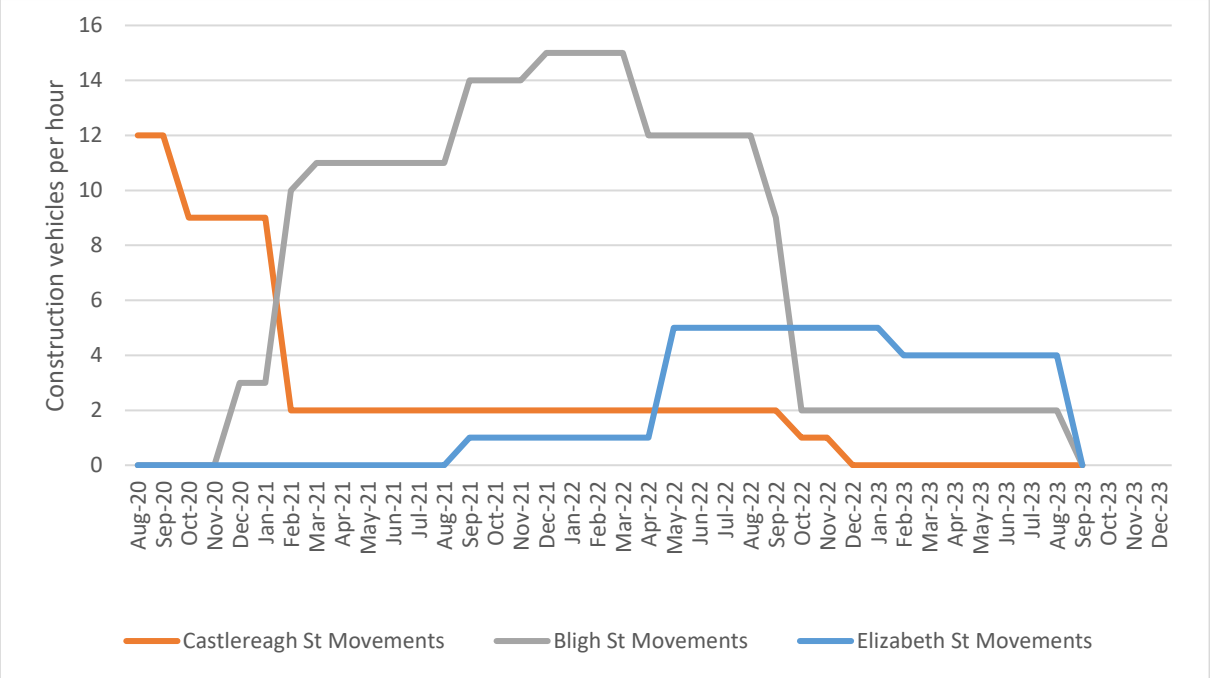
Construction activities occurring at the North Site will require most construction vehicles to be accessing the Bligh Street Site Compound. Such activities would include Station Structure concrete pours; Caverns structures, concrete pours and fit-out; Station fit-out; and, OSD Structure concrete pours. For the majority of the project, there would be approximately 10-12 trucks per hour accessing the Bligh Street Site Compound via O'Connell Street. During the peak construction works (i.e. OSD Structure concrete pours), there would be approximately 14-15 trucks per hour which would occur from September 2021 to March 2022.

As a result of construction vehicles accessing the Bligh Street Site Compound, there would be reduced construction traffic generation accessing the North Site via Castlereagh Street. From November 2020 until the end of the project, there would be two vehicles or less accessing the North Site via Castlereagh Street.

A work zone is proposed on Elizabeth Street west side (around August 2021) to facilitate the North Site OSD building fit-out. Approximately 4-5 vehicles per hour are forecasted to access the North Site via Elizabeth Street using the site access driveways and the work zone (combined). On average, this equates to one vehicle movement every 6-8 minutes entering or leaving the North Site. There would be sufficient gaps in arrivals/ departures of construction vehicles such that there would be a minor impact to traffic and bus movements on Elizabeth Street. As a mitigation measure, the work zone on Elizabeth Street is proposed to operate during the off-peak period between the AM and PM peak periods when traffic and bus volumes are reduced. Consultation with SCO, TfNSW and STA buses will be carried out to ensure any noticeable traffic impacts are mitigated.

Figure 8.5 shows the above described forecasted traffic generation related to construction activities to be carried out at the North Site.

Figure 8.5: North Site Construction Traffic Generation



South Site

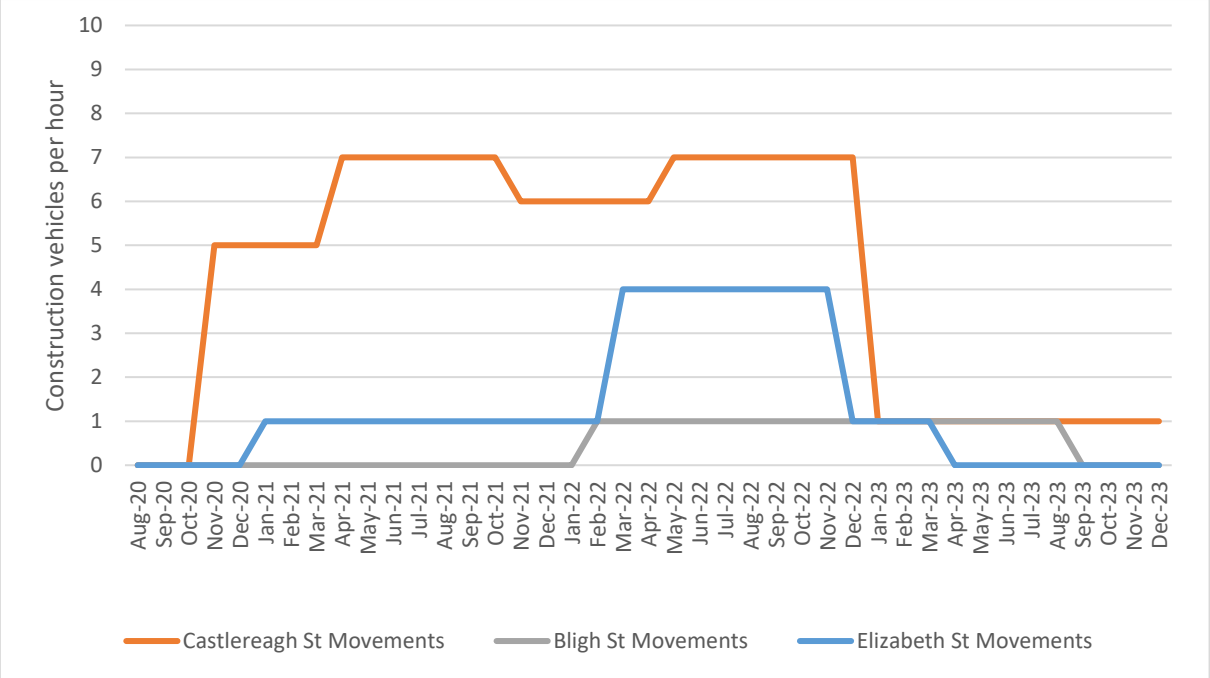
Construction activities occurring at the South Site will require most construction vehicles to be accessing the site via Castlereagh Street. Such activities would involve concrete pours for the OSD Structure. For the majority of the project, there would be approximately 8-10 trucks accessing the South Site via Castlereagh Street on an hourly basis. Once concrete pours are complete (by the end of December 2022) the construction vehicle generation would reduce to 1 truck per hour via Castlereagh Street.

There will be up to 4 trucks per hour accessing the south site via Elizabeth Street, and 1 truck per hour via O'Connell Street. The trucks traveling via Elizabeth Street would facilitate the OSD Structure build during the peak of the concrete pours while trucks travelling via O'Connell Street would be deliveries for the OSD building fit-out.

As described in Section 8.5, a work zone is proposed on Elizabeth Street alongside the South Site boundary which will facilitate the South Site OSD Structure concrete pours. There would be up to 4 vehicles per hour forecasted to access the South Site via Elizabeth Street.

Figure 8.6 shows the above described forecasted construction traffic generation for works to be carried out at the South Site.

Figure 8.6: South Site Construction Traffic Generation



Cumulative Traffic Generation per Street

It is acknowledged that there would be cumulative construction traffic generated by the North Site and South Site along Castlereagh Street, Elizabeth Street and O'Connell Street.

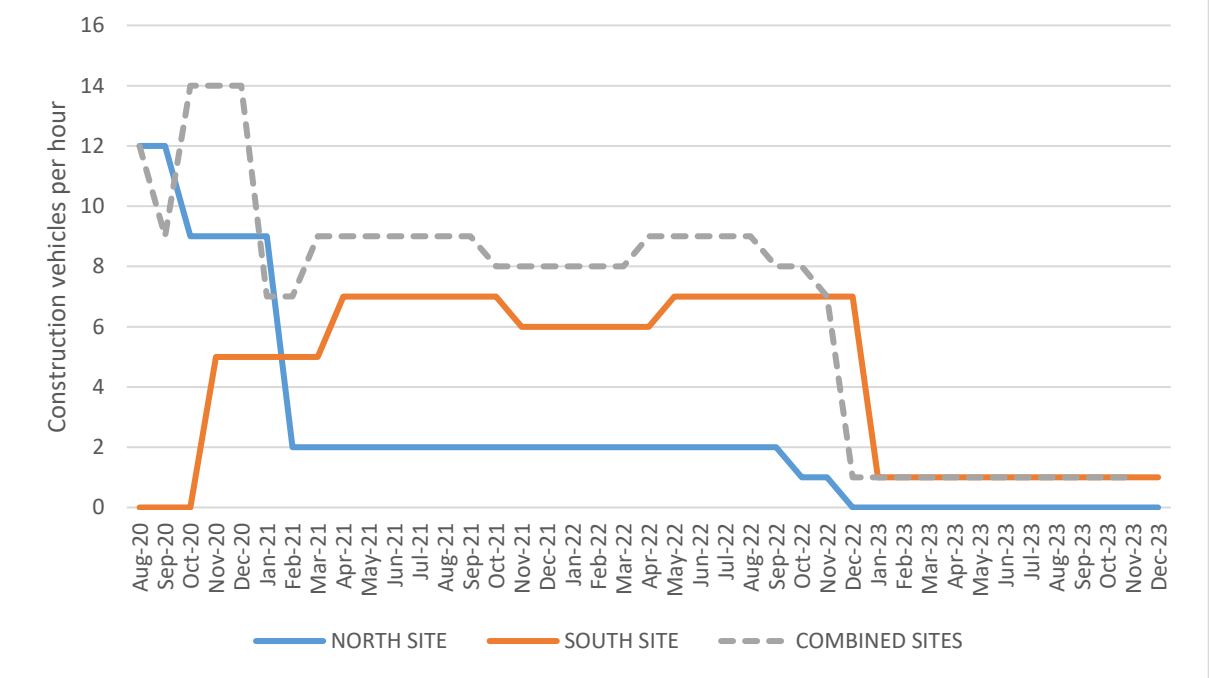
Collectively, there would be around 8-9 vehicles per hour using Castlereagh Street to access either the North Site or South Site. This is expected to occur from March 2021 until October 2022. However, by January 2023 until project completion the construction traffic volumes are forecasted to reduce to 1 vehicle per hour.

In the peak construction period, there would be up to 14 construction vehicles per hour entering Castlereagh Street. This period would last a short period of two months, from October 2020 until December 2020. This is equivalent to one vehicle every 4-5 minutes on average, which would have a minor impact to the local road network operation.

During the non-peak construction period, there would be 1 vehicle per hour travelling on Castlereagh Street which would have a negligible impact on the intersection operation and surrounding road network.

Construction traffic flows on Castlereagh Street for the duration of the project are illustrated in Figure 8.7.

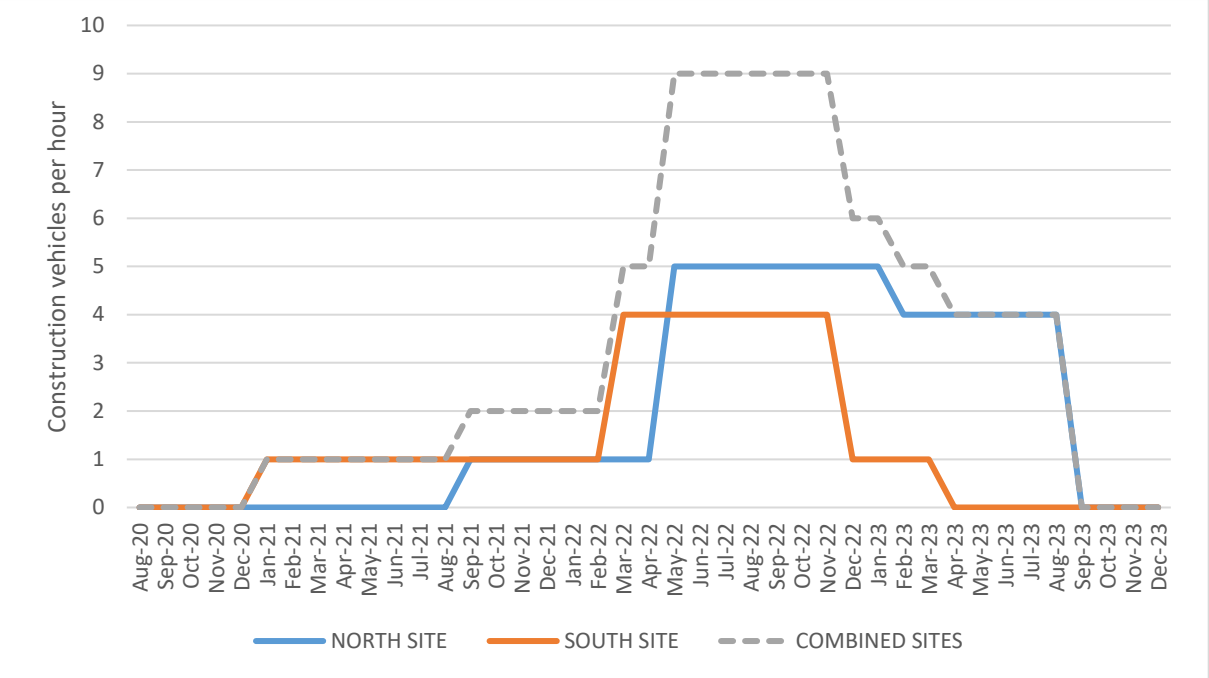
Figure 8.7: Construction Traffic Volumes on Castlereagh Street



A site access driveway and work zone is proposed off Elizabeth Street at the North Site, and a work zone is proposed alongside the South Site boundary on Elizabeth Street. It is estimated that there would be up to 9 vehicles per hour along Elizabeth Street during the peak construction period. This is forecasted between May 2022 and November 2022. At other times, the hourly construction traffic generation would be 6 vehicles per hour or less. On average, this equates to one vehicle every 6-10 minutes which is expected to have minimal impact on the operation of the local road network.

Forecasted construction traffic generation on Elizabeth Street for the duration of the project are illustrated in Figure 8.8.

Figure 8.8: Construction Traffic Volumes on Elizabeth Street



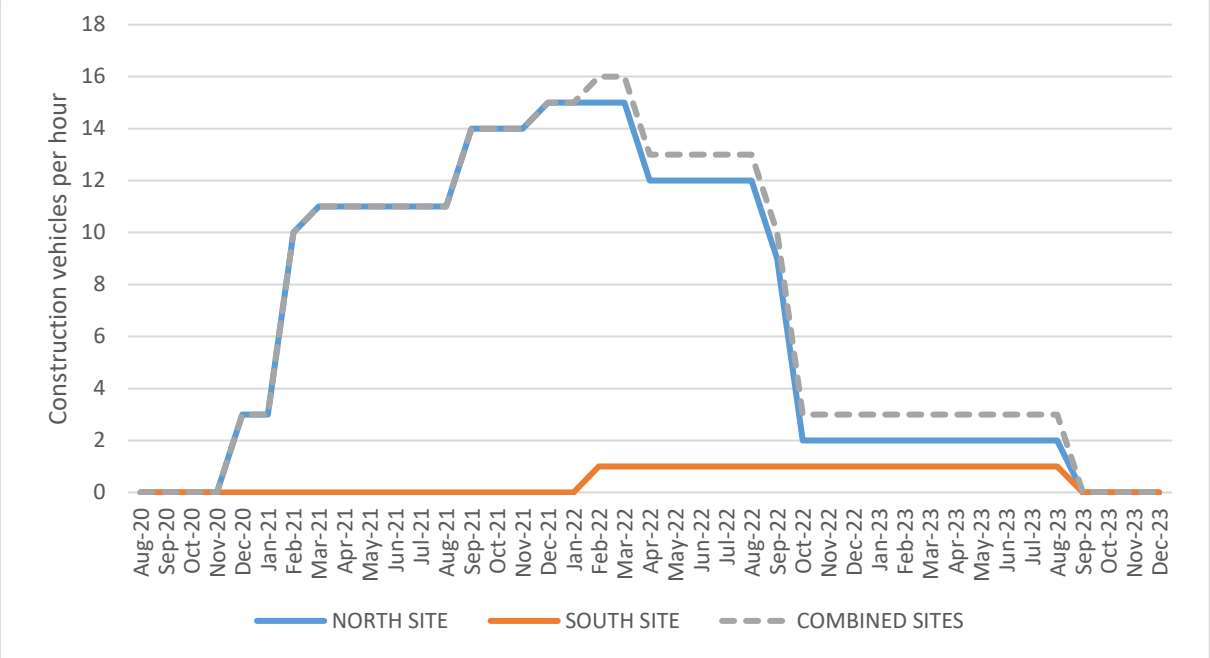
The Bligh Street Site Compound would serve access for construction vehicles as part of the works which will be occurring at the North Site as well as the South Site. From November 2020, concrete delivery trucks for the North Site station structure will use O'Connell Street to access the Bligh Street Site Compound. Access to the South Site via the Bligh Street Site Compound will not be required until much later in the project i.e. February 2022.

As shown in Figure 8.9, there would be up to 15 construction vehicles travelling on O'Connell Street towards the Bligh Street Site Compound. Equivalently, that is 1 vehicle every 4 minutes which would not cause adverse impacts to the intersection operation and local road network. For the month of February 2022, there would be up to 16 vehicles per day.

Bus layovers exist on either side of O'Connell Street, however, the construction traffic generation would not cause any impact to buses on O'Connell Street as there would still be sufficient gaps in traffic flow for buses to enter and exit the bus layover areas.

It is noted that during the last 12 months of the project, there would be up to 3 vehicles per hour accessing the Bligh Street Site Compound.

Figure 8.9: **Construction Traffic Volumes on O'Connell Street (Bligh Street Site Compound)**

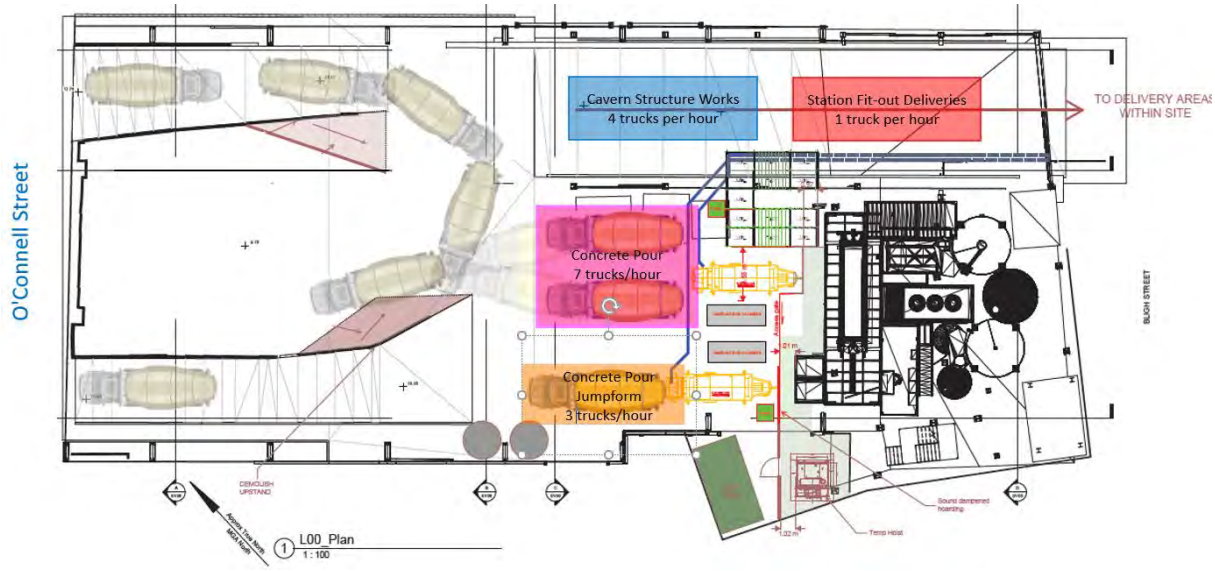


In the peak construction period, the 15 vehicles per hour would comprise a mix of concrete agitators for the OSD Structure concrete pour, Cavern Structure works and Station fit-out deliveries. Of these, there would be 10 concrete agitators and 5 deliveries for the Cavern Structure works and Station fit-out on an hourly basis.

Within the Bligh Street Site Compound, there will be three concrete pumping bays as shown in Figure 8.10. Collectively, the twin pump and single pump would accommodate three concrete agitator trucks at one time. Each agitator on the twin pump requires 15 minutes per concrete pour and one agitator on the single pump requires 20 minutes per concrete pour. Therefore, the site could physically accommodate a total of 11 concrete agitators (8 twin pump trucks and 3 single pump trucks) in 60 minutes. There would be space within the lower levels of the Site Compound which would accommodate the 5 deliveries per hour to the Cavern Structure and Station fit-out.

Therefore, the Bligh Street Site Compound will have sufficient capacity on-site to accommodate the peak construction traffic generation associated with the North Site and South Site.

Figure 8.10: **Construction Traffic Volumes on O'Connell Street (Bligh Street Site Compound)**



8.7 Haulage Routes

The Project Team recognises that effective management of haulage operations is not only critical to the success of the project but is also necessary to minimise the impact on the road network and to maintain the safety of pedestrians.

Haulage routes have been selected on the basis that trucks are to utilise State and Regional Roads first before travelling on Local Roads. These routes have been used in previous stages of the Martin Place Metro Station construction works namely, during early works and demolition stages. Thus, the proposed routes are established and functioning haulage routes.

Haulage routes would be communicated and adhered to by drivers through the implementation of a Drivers Code of Conduct which would be provided to the relevant personnel during site induction. All drivers would take the mandatory Sydney Metro City & Southwest project specific Heavy Vehicle Driver Introduction Training.

It is understood that City of Sydney could approve access for oversize and/or over mass vehicles on the City's roads following the submission of an Oversize & Over Mass Vehicle Permit Application.

The proposed arrival and departure haulage routes are listed as follows and illustrated in Figure 8.11.

Arrival Routes

The primary arrival route to be adopted to minimise traffic disruptions in the CBD is the route from the south where the majority of haulage trucks would originate.

- To the North Shaft and South Shaft Sites:
    - From South: Trucks will approach from the Eastern Distributor (northbound), then turn off to Shakespeare Place, straight into Bent Street, left into Bligh Street, continue into Castlereagh Street and turn left into the site.
    - From East: Trucks will approach the site from William Street, right into Palmer Street, right into Sir John Young Crescent and Shakespeare Place, straight into Bent Street, left into Bligh Street, continue into Castlereagh Street and turn left into the site.
    - From West: Trucks will approach the site from Western Distributor, exit into King Street, left into Elizabeth Street, left into Hunter Street and turn left into the site.
    - From North: Trucks will approach the site from the Harbour Bridge, then Cahill Expressway, exit into Macquarie Street, right into Hunter Street, left into Castlereagh Street and turn left into the site.
- To the Bligh Street Site:
    - Trucks will approach the site from John Young Crescent and Shakespeare Place, straight into Bent Street, left into O'Connell Street and turn left into the site.

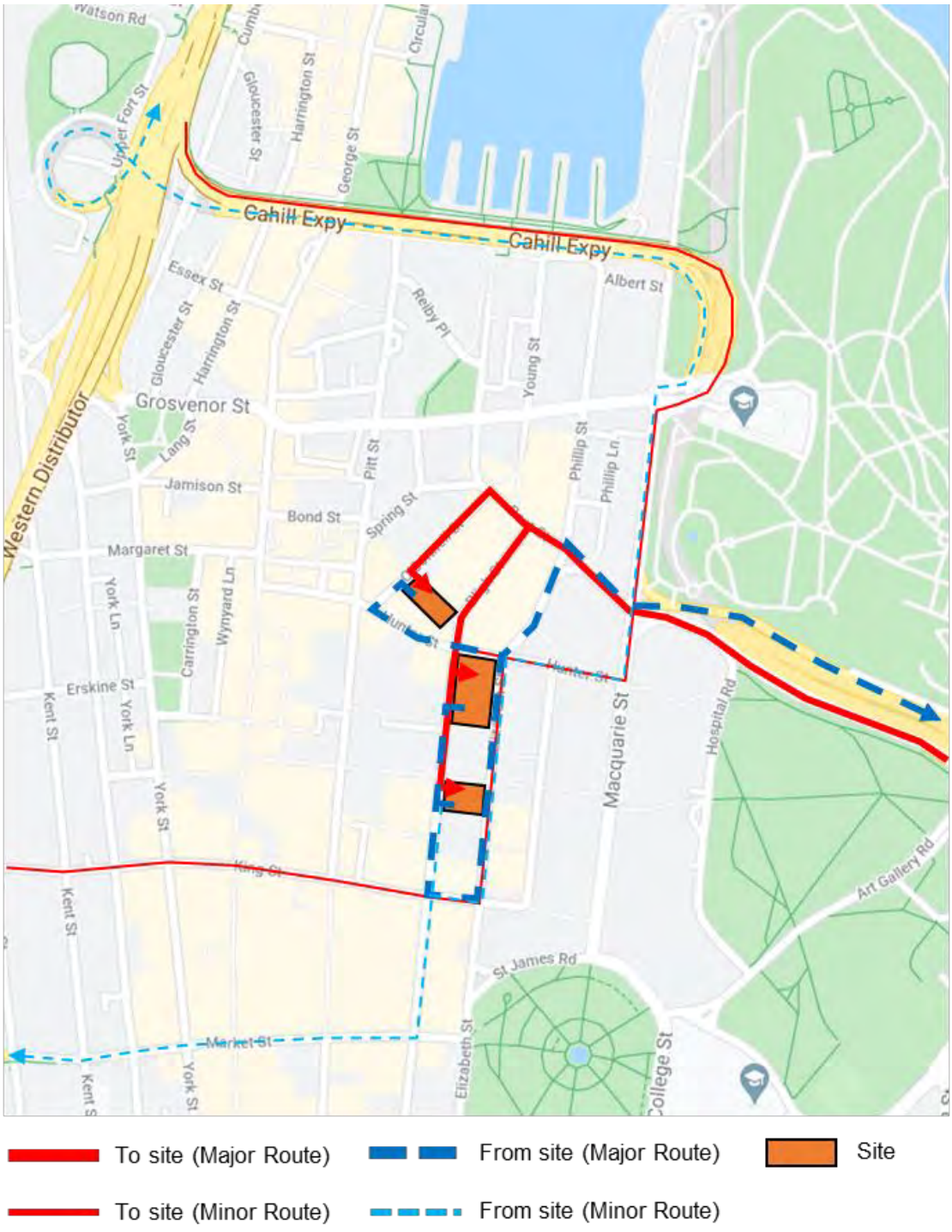
Departure Routes

The primary departure route is to the south where the majority of vehicles would travel to.

- From the North Shaft and South Shaft Sites:
    - To South: Turn left from the site into Castlereagh Street, left into King Street, left into Elizabeth Street, straight into Phillip Street, right into Bent Street, then onto the Eastern Distributor.
    - To East: Turn left from the site into Castlereagh Street, left into King Street, left into Elizabeth Street, straight into Phillip Street, right into Bent Street, then onto the Eastern Distributor.
    - To West: Turn left from the site into Castlereagh Street, right into Market Street and continue into the Western Distributor.
    - To North: Turn left from the site into Castlereagh Street, left into King Street, left into Elizabeth Street, right into Hunter Street, left into Macquarie Street, then turn right onto the Cahill Expressway near Bridge Street.
- From the Bligh Street Site:
    - Turn left from the site into O'Connell Street, left into Hunter Street, left onto Macquarie Street, then right towards the Eastern Distributor.

It is acknowledged that whilst the proposed haulage routes vary to those presented in the CTMF and Sydney Metro EIS, the routes are considered suitable on the basis that they were used during early works and demolition phases, and that they would not present any issues on the surrounding road network.

Figure 8.11: Nominated Haulage Routes



The use of 19m semi-trailers is required for the delivery of steel reinforcement to the subject site which will be used in the build of the structures. Semi-trailers will facilitate the transportation of longer rebars which will provide environmental and economic benefits; the use of semi-trailers will comparatively result in less heavy rigid vehicle movements in the CBD, also there will be less lapping of long rebars in comparison to short rebars which will reduce the amount of steel utilised in the build.

An analysis of semi-trailers will be provided in a revised version of this CTMP.

8.8 Traffic Management

Truck movements to and from the subject site would be scheduled to minimise traffic disruption on the surrounding road network. This would comprise the following measures:

- Heavy vehicles equipped with systems to improve vehicle safety, visibility and the detection of vulnerable road users.
- Oversized vehicles would be transported to/from the site in strict accordance with Roads and Maritime guidelines and City of Sydney requirements, subject to one-off approval, to minimise traffic disruption during normal business hours.
- Haulage routes would be designated and communicated to all truck drivers to ensure truck movements to/from the site are as efficient as possible.
- The loading and unloading of trucks would be planned to ensure each individual truck haulage capacity is fully utilised reducing the number of truck movements.
- Trucks would be stored on-site whilst loading/ unloading deliveries and spoil. As a contingency, trucks would be able to utilise the Castlereagh Street work zone that is proposed along the site frontage to temporarily store if on-site vehicle accommodation is at capacity.

8.9 On-site Parking

Vehicles associated with the subject site must not park in any on-street parking spaces. On-site parking would not be made available for employees working on the project. Staff would be encouraged to use public transport when travelling to/from the site, hence minimising traffic impacts on the surrounding road network.

All vehicles associated with the site would be parked wholly within the site in designated off-street parking areas.

8.10 Pedestrian and Cyclist Management

B-class hoarding would be erected over the footpath on Castlereagh Street (east side), Hunter Street (south side) and Elizabeth Street (west side) to provide overhead protection to pedestrians and maintain pedestrian thoroughfare during the construction period. Details relating to B-class hoarding installation would be provided in a separate application and

CTMP by the contractor. Relevant permits required for hoarding installation to be undertaken would be sought prior to any works taking place.

Pedestrian access would be maintained along the footpath in Castlereagh Street Hunter Street, Elizabeth Street and O'Connell Street during all stages of construction. Qualified traffic controllers would be situated at vehicle-pedestrian interfaces, such as site access driveways, to manage and control pedestrian movements.

Concertina gates would extend across the footpath on both sides of the driveway to temporarily contain pedestrians when a driveway is in use. When the driveway is not in use the pedestrian concertina gates would be opened and pedestrian movements along the footpath would be available. One traffic controller is able to adequately and sequentially open and close concertina gates on both sides of the driveway. Furthermore, there is currently one traffic controller located at each driveway at the North Site and South Site and this arrangement operates adequately.

Traffic controllers would not stop pedestrians in anticipation. Pedestrians have the right-of-way at all times. Pedestrians may be held only for short periods by the pedestrian concertina gate to ensure safety when trucks are entering and leaving the site. Day time use of the vehicular crossing would be limited to one minute to minimise delay to pedestrians.

Appropriate information signs would be provided at the site access to identify the Project and relevant contact persons. The worksites would have appropriate arrangements to discourage entry without approval and minimise vandalism. The access point to the work site would have a lockable gate. The Project Team would develop Security Management Plans based on the site-specific security threats (hazards) identified to meet the requirements outlined in the SM PS-ST-221 Sydney Metro Principal Contractor Health and Safety Standard.

Cyclists in O'Connell Street, Elizabeth Street, Hunter Street and Castlereagh Street would not be affected by the excavation and construction works. Cyclists would be required to follow the traffic controller's directions as are other road users.

8.11 Line-wide Works

It is proposed that Line-wide will utilise the Bligh Street Site for deliveries into the rail tunnels where it is completing its works. Lendlease will operate as the Principle of the site, maintaining the necessary control of the Bligh Street Site. Line-wide will operate under this CTMP during the approved working hours as detailed in Section 8.3.

Lendlease will work with Line-wide to coordinate delivery vehicle access to the rail tunnels through the Bligh Street Site access off O'Connell Street. Lendlease will manage the Bligh Street Site access points as per TCPs and truck volumes outlined in this CTMP. Line-wide deliveries will be accommodated where possible so as not to impact Lendlease operations or cause an exceedance of peak hourly truck numbers.

Line-wide will ensure compliance, haulage routes, audits, NCRs, community notifications and other operational controls. All Line-wide non-conformances and/or non-compliance with the CTMP will be managed by Line-wide through its management systems.

A brief has been prepared by Line-wide detailing the proposed operations, which has been included in Appendix H.

8.12 Dilapidation Survey

A dilapidation survey of the surrounding infrastructure has been undertaken by Greencap Property Group as commissioned by the Project Manager. Detailed photographic records of the following areas would be noted to identify existing defects prior to works to assist in identifying damage possibly related to the works:

- Footpaths along Elizabeth Street, Hunter Street and Castlereagh Street surrounding the subject site where Class B hoardings are to be erected.
- Section of the roadway on Castlereagh Street extending approximately 30m from either side of the nominated access points of both sites for heavy vehicles.
- Footpaths and roadway on O'Connell Street at the entrance and exit of the Bligh Street Site Compound.

Copies of the Road Dilapidation Report would be provided to City of Sydney within three weeks of completing the surveys and no later than one month before the use of local roads by heavy vehicles.

If damage to roads occurs as a result of construction activities and haulage operations, the Project Team would either (at the landowner's discretion):

- compensate the landowner for the damage caused. The amount of compensation may be agreed with the landowner, or
- rectify the damage so as to restore the road to at least the condition it was before excavation and construction works commenced as identified in the Road Dilapidation Report.

9 Assessment of Impacts

Impacts due to excavation and construction works have been assessed in the following hierarchy of access in-line with the CTMP Framework set out by Sydney Metro:

- Incidents & emergency services access
- Special events
- Unplanned events
- Pedestrians and cyclists
- Public transport – buses
- Service vehicles – loading zone
- Coaches – N/A
- Taxis
- Kiss and Ride – N/A
- Mail zone
- Private cars (Shoppers/short stay, commuters) – on-street parking.

Other impacts assessed included:

- Cumulative impacts to surrounding major construction projects
- Impacts to Sydney Light Rail.

9.1 Impacts to Incidents and Emergency Service Access

An Incident Management Plan is being developed by the contractor which would incorporate standard operating procedures for managing incidents and access for emergency services.

In the event of a traffic and transport related incident the primary point of contact for incident management is the Transport Management Centre. The Sydney Coordination Office would also be informed of the incident.

Access to the subject site and neighbouring sites by emergency vehicles would not be affected by the works as the road and footpath frontage would be unaffected. Emergency protocols on the site would include a requirement for suitably accredited site personnel to assist with emergency access from the street.

Consequently, any potential impacts on emergency access would be effectively managed throughout the works.

Liaison shall be maintained with the police and emergency services agencies throughout construction and a 24-hour contact would be made available for 'out of hours' emergencies and access.

Lendlease would assist with emergency access along Castlereagh Street as part of the emergency protocols on-site.

Thus, there would be no adverse impacts on the provision of existing emergency vehicle access to other neighbouring properties as a result of the proposed construction activities.

A fortnightly meeting is held with SCO and Emergency Services personnel to discuss upcoming major construction work and traffic changes as part of the Sydney Metro project. Lendlease would liaise with SCO should any works involve lane/road closures and/or intersection changes.

9.2 Impacts to Special Events

A summary of scheduled major special events that would be held in Sydney CBD in proximity to the construction works include, but are not limited to, those provided in Table 9.1. Most of the events in Table 9.1 occur annually, therefore, the dates and affected areas associated with each event are assumed to be similar in successive years (up to the completion of construction works in May 2023).

Table 9.1: Planned Special Events Surrounding the Subject Site

Date	Event	Affected Streets Surrounding the Subject Site
25 April	Anzac Day Parade	Bent Street, Bligh Street, Castlereagh Street, Elizabeth Street, Hunter Street, King Street
Sunday in May	Mothers' Day Classic	Macquarie Street, College Street, Mrs Macquarie Road, The Royal Botanic Garden
May/June	Vivid Sydney	Sydney CBD, Circular Quay
July	Reserve Forces Day	Macquarie Street
Sunday in September	Sydney Running Festival	Bent Street, Hunter Street, Phillip Street, Macquarie Street
Sunday in October	Sydney Spring Cycle	Cahill Expressway
Sunday in November	Bloody Long Walk	Macquarie Street
December / January	Sydney New Years Eve	Sydney CBD
January	Australia Day	Circular Quay
February/ March	Chinese New Year Festival	Circular Quay, Haymarket

Roads and Maritime's Special Events Management guidelines identify the following classes of special events:

- Class 1: an event that impacts major traffic and transport systems and there is significant disruption to the non-event community.
- Class 2: is an event that impacts local traffic and transport systems and there is low scale disruption to the non-event community.
- Class 3: is an event with minimal impact on local roads and negligible impact on the non-event community.
- Class 4: is an event conducted entirely under Police control (but is not a protest or demonstration).

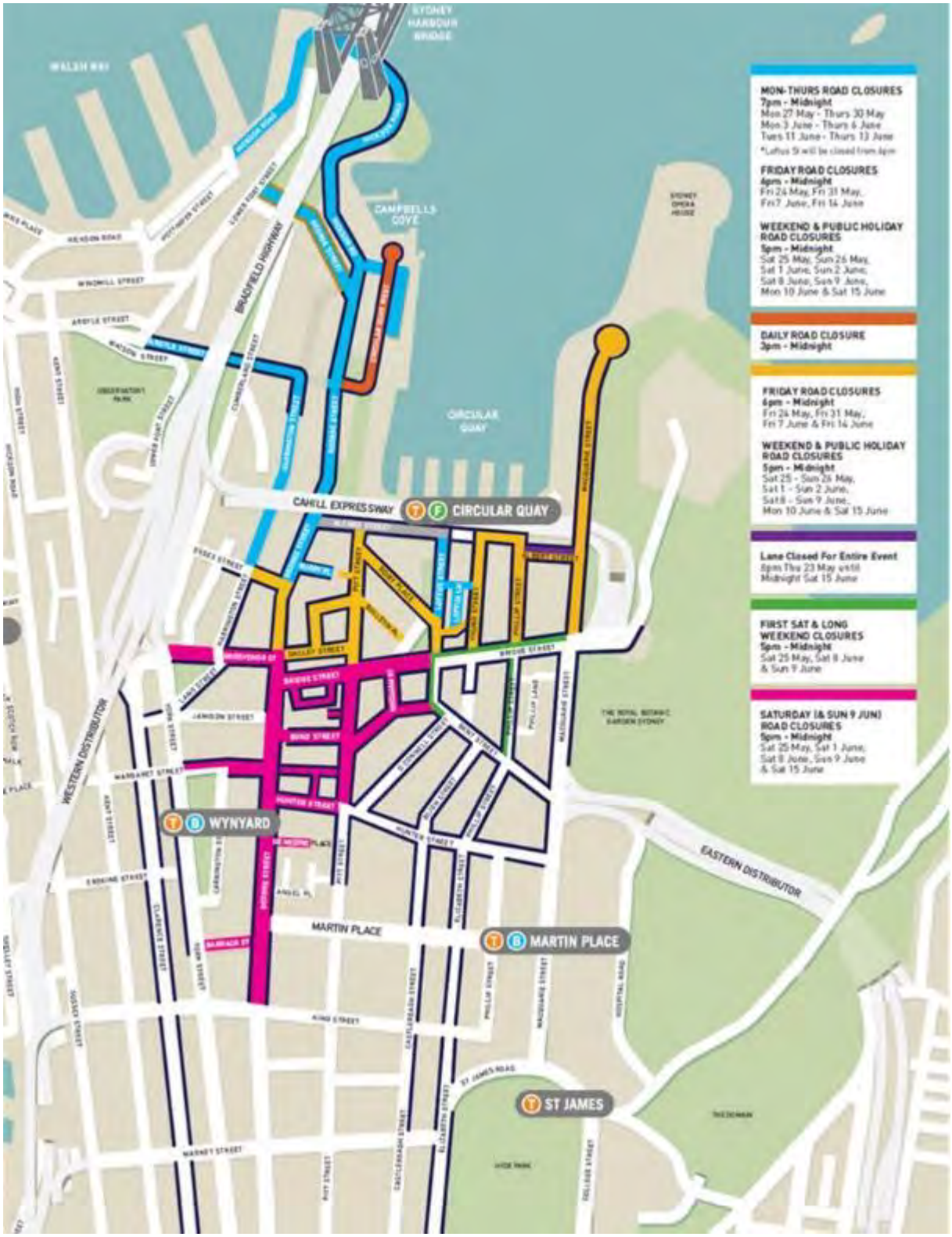
The above are Class 1 and 2 events which occur on Sundays and public holidays and do not coincide with construction works that are scheduled to occur Monday to Saturday (i.e. non-public holidays). Exceptions to this include Vivid Sydney and Chinese New Year events as they generally last for a few weeks with most major events taking place in the evening in the Sydney CBD, Circular Quay and Haymarket areas.

In March 2020, the NSW Government announced the cancellation of Vivid Sydney 2020 and other major events in the CBD following recommendations by the Federal Government and health authorities to limit non-essential organised gatherings to less than 500 people to control the spread of the COVID-19 virus.

At the time of preparing this CTMP, there has been no indication whether Vivid Sydney and other major events will take place for the remaining period of 2020 and in 2021.

As per Vivid Sydney 2019, any road closures associated with the event in the future are expected to take place on weekends between 5pm-12am. Such road closures do not coincide with the proposed construction vehicle haulage routes and would not be expected to impact access to the subject site. Road closures associated with Vivid Sydney are shown in Figure 9.1.

Figure 9.1: Vivid Sydney Road Closures



Basemap Source: Vivid Sydney flyer 2019, viewed online on 19/11/2019

Similarly, it is uncertain how the Sydney New Years Eve 2020 event are expected to proceed. A review of of historic events indicates that RMS implemented a staggered programme for closing all roads in the CBD is implemented. Typically, streets surrounding the North Site would be closed from 7pm on 31 December while streets surrounding the South Site would be closed from 11pm. Therefore, the proposed construction haulage activities shall be coordinated to avoid causing any impact to the event.

As the COVID-19 pandemic evolves, the NSW State restrictions are constantly under review and amendment. Given the changing nature of the COVID-19 pandemic, the Project Team shall constantly review the Government's restrictions such that the construction haulage activities avoid causing any impact to events.

City of Sydney has a policy of not permitting works that would cause disruption to the retail core of the city during December in order to minimise impact on pedestrian paths and station access in the lead up to Christmas and post-Christmas period. Given the subject site is not located within the retail core, it is anticipated the construction works and the haulage operation would not impact on the traffic operations within the retail core during this busy shopping period. It is also acknowledged that retail trading hours are extended during this period, thus construction activities between mid-December and early January would be considered on a case-by-case basis.

It is acknowledged that ad hoc events may occur with minimal notice, including marches, protests and other public events. Impacts of special events in the CBD are not limited to the event area and immediate side streets. Many events involve relocating transport services such as buses and taxi zones temporarily. The Project Team would continue to identify special events that might be impacted by the proposed haulage activities during the course of the construction works, and subsequently incorporating the known special events into the construction program and to detail responses and contingencies in the CTMP. This coordination would occur through the Sydney Coordination Office, approved event registers of Councils, the TCG and the TTLG.

Construction works at the subject site would be scheduled outside special event periods where possible, given the majority of the special events occur on Sundays and public holidays as listed in Table 9.1. Where unavoidable, liaison would occur with event organisers of Class 1 and 2 events, and the Sydney Coordination Office, Roads and Maritime and the organisers of the event to provide appropriate management of heavy vehicle movements to manage potential impacts to event goers, the general public and the excavation and construction works. This may involve measures such as temporary adjustment to haulage routes, working hours or potentially stopping works for the duration of the event.

9.3 Impacts to Unplanned Events

The Project Team would provide support to emergency service agencies and road authorities in the management of emergencies and unplanned incidents on roadways approaching and within the subject site area and would assist in the restoration of normal traffic conditions.

The types of emergencies or unplanned incidents that may occur include, but not limited to:

- Traffic crashes
- Hazardous material spillage
- Chemical spills and leak
- Power failure and bomb threats
- Terrorist attack
- Inclement weather conditions, including flooding and major storm events
- Fire
- Police operations
- Anti-social behaviour
- Structural damage to a rail line, building, road tunnel or bridge
- Construction type incidents involving closure of a lane, or footpaths.

The Safety Manager would develop an Incident Management Plan which would incorporate standard operating procedures for managing emergencies and unplanned incidents.

In the event of a traffic and transport related incident the primary point of contact for incident management is the Transport Management Centre. The Sydney Coordination Office would also be informed of the incident.

In case of flammable or hazardous substances, site personnel would be instructed not to approach these substances until NSW Fire and Rescue have declared the site safe. Lendlease would close the roadway at a safe distance until Fire and Rescue arrives and issues appropriate instructions.

The contractor shall also co-ordinate with TMC and Sydney Coordination Office should incidents occur.

9.4 Impacts to Pedestrians and Cyclists

During excavation and construction, pedestrian access adjacent to the site along Elizabeth Street, Hunter Street and Castlereagh Street would be maintained and all footpaths would be kept clear and trafficable at all times. There would be no vehicular access to the site via Hunter Street.

Qualified traffic controllers would be located at proposed site accesses to separate pedestrian and vehicle movements. No negative impacts are anticipated to be imposed on pedestrians. Cycle access would be maintained in Castlereagh Street and Elizabeth Street during normal excavation and construction works. Haulage vehicles would not impose adverse impacts on cyclists travelling along these streets nor any other local streets.

TSE previously occupied the South Site and Martin Place Plaza for excavation works. Under this occupation there is a 7.7m wide pedestrian footbridge which spans across Martin Place Plaza and A-class hoarding along the perimeter of the works area as shown in Figure 9.2. In August 2020, the footbridge "wing" on Elizabeth Street was removed to enable excavation works in the north-east portion of the works area. This layout is proposed to be maintained as such following site handover from TSE to Lendlease so that construction works can be facilitated in this portion of the works area. No changes are proposed to the wing on Castlereagh Street.

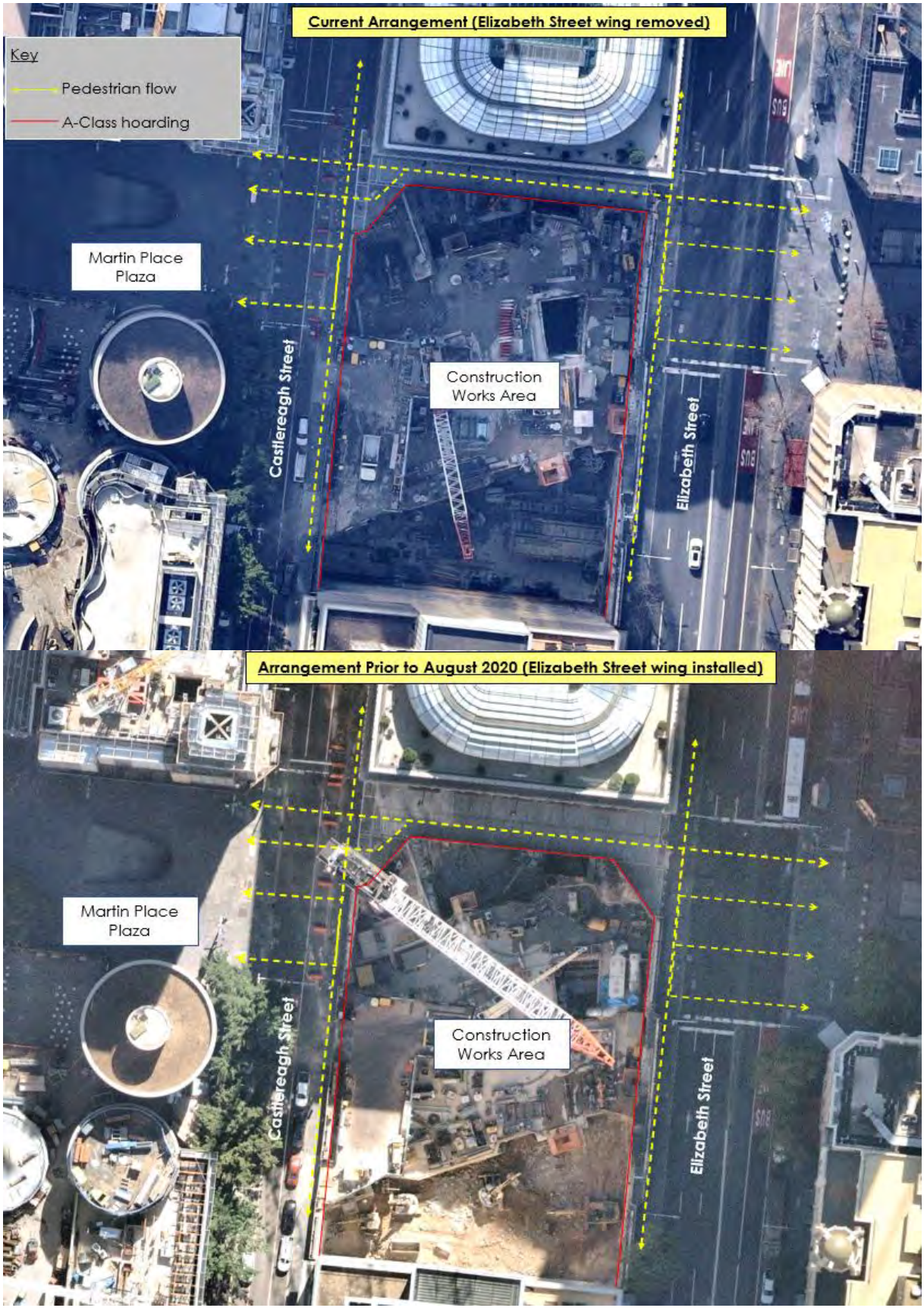
The purpose of the footbridge wing is to accommodate pedestrians waiting at the signalised mid-block crossing simultaneously with north-south pedestrian movements on the footpath. Given that there has been an increase in the number of employees working from home during the COVID-19 pandemic, generally there have been less pedestrians travelling in the CBD during commuter peak periods. This has helped enable the removal of the Elizabeth Street wing with minimal impact on the pedestrian level of service (also known as Fruin level of service) in this location.

Notwithstanding this, the commuter peak periods shall be monitored to identify when overloading of the crossing and footpath on Elizabeth Street occurs. Pedestrian flow data shall be collected by undertaking pedestrian counts taken from photographic reports. Should overloading occur at this location the footbridge wing will be re-instated as per the configuration prior to August 2020 (Figure 9.2). The wing would be re-instated within 5 days.

The trigger for additional space will be when the Fruin level of service for the north-south pedestrian movement reaches LoS D/E across a standard working week. Characteristically, this is when the east-west pedestrian movement is forced to queue on the footpath, impeding the north-south pedestrian movement. A pedestrian assessment based on Fruin level of service would be undertaken to identify the impact to pedestrians and determine suitable mitigation measures. The results of such analysis and the proposed measures would be discussed at TCG meetings.

Should Sydney Metro, SCO or City of Sydney request the re-instatement of the pedestrian wing, Lendlease shall have the materials to re-install the scaffold bridge.

Figure 9.2: Martin Place Plaza



9.5 Impacts to Bus Zones and Services

Surrounding the North Shaft Site

Bus operation in Elizabeth Street, Hunter Street and Castlereagh Street would not be impacted by vehicles accessing the site. Access to bus stops along Castlereagh Street and Elizabeth Street would remain as current and storage capacity for buses at the kerbside would remain unchanged.

As part of the earlier construction stages for this project, a work zone is located in the eastern kerbside lane on Castlereagh Street. The bus zone that was previously located in place of the work zone has been relocated to the western kerbside lane on Castlereagh Street as per the approval for an earlier revision of this CTMP.

Surrounding the South Shaft Site

A work zone is proposed on Elizabeth Street alongside the South Site that will be 20m long. The work zone would reduce the bus zone from approximately 70m to 40m in length. Whilst the proposed work zone would be 20m long, it would reduce the functional length of the bus zone by an additional 10m (thus, overall reduction of 30m) as the northern section of the bus zone would not be useable by buses (closest to the Martin Place midblock signals). Notwithstanding, observations from a site inspection in the AM peak period found that the full length of the bus zone was not used; typically, there is one bus stopped at any time. Therefore, the future bus zone would be expected to adequately accommodate usual peak bus operation.

Surrounding the Bligh Street Site Compound

The existing bus zones for bus layovers on O'Connell Street and Bligh Street, that are located north of the site, would be maintained at all times and not be affected by the site ingress and egress movements.

9.6 Impacts to Taxis

Construction works would not impact the operation of taxis and taxi ranks located on Castlereagh Street (west side, near the North Site).

Similarly, the taxi set down area located on Castlereagh Street alongside the South Site boundary would not be impacted by the construction works.

9.7 Impacts to On-Street Parking and Loading Zones

Surrounding the North Shaft Site

Currently, the proposed work zone on Castlereagh Street (east side) is in operation along the frontage of the North Site reducing the length of the existing loading zone (6am-3pm weekdays and 6am-10am on Saturday), bus zone (3pm-8pm weekdays) and the 4P ticketed parking (8pm-12am weekdays, 10am-10pm on Saturdays and 8am-10pm on Sundays and public holidays).

As described in Section 9.5, the reduced section of the Castlereagh street bus zone is relocated from the east side to the west side to accommodate a work zone. The bus zone on the west side of Castlereagh Street currently operates between 3.00pm-6.00am on weekdays and 6.00pm-6.00am on weekends and public holidays.

Loading activities associated with the buildings historically located at the subject site would be eliminated during the excavation and construction period. As a result, the demand for loading is expected to reduce accordingly in Castlereagh Street and a reduction in the loading zones near the site would be expected to have a minor impact on the surrounds.

Surrounding the South Shaft Site

The proposed work zone on Castlereagh Street at the South Site would reduce the length of the existing loading zone by approximately 20m. It is expected that loading activities in this period would be carried out using the remaining 12m of the loading zone.

As above, demand for parking and loading during construction would decrease, thus, reduced parking and loading spaces surrounding the site would be expected to have a minor impact on the surrounding area. To off-set any potential demand, paid off-street car parks are located in close proximity at various locations including Castlereagh Street at Martin Place, as well as Pitt Street south of Hunter Street.

It is understood that any changes to parking requires endorsement from the City of Sydney's Local Pedestrian, Cycling and Traffic Calming Committee (LPCTCC). The Project Team would liaise with City of Sydney regarding any parking changes in the ongoing consultation process.

Surrounding the Bligh Street Site Compound

The existing loading zone (8am-6pm on weekdays) and 4P ticketed parking (6pm-10pm on weekdays and 8am-10pm on weekends and public holidays) would remain unchanged.

9.8 Impacts to Mail Zone

There is an Australia Post box and No Stopping/ mail zone located alongside the North Site on Elizabeth Street (west side). Works associated with the bulk of the project would not cause any impacts to the mail zone.

A work zone on Elizabeth Street adjacent to the North Site is proposed during the off-peak period between the AM and PM peak periods. There is currently an Australia Post box located between the two site access driveways. There will be no impediment on access to the mail box given the mail boxes are typically emptied after 6pm daily. Notwithstanding this, Consultation with Australia Post will be undertaken to coordinate access to the mail box by its vehicles.

9.9 Impacts to Adjacent Properties

Access to adjacent properties would be maintained at all times for both pedestrians and vehicles as per existing conditions.

9.10 Cumulative Impacts to Surrounding Road Network

Figure 9.3 shows the location of construction projects which will operate concurrently with the subject site. Haulage routes used by vehicles accessing surrounding construction sites may partially overlap with those used to access the subject site. Construction projects having the most common haulage routes used by the subject site would be those sites located in the immediate vicinity on Castlereagh Street, Elizabeth Street and O'Connell Street, namely:

- 50 Bridge Street, *Quay Quarter Tower*
- 1-7 Castlereagh Street
- 60 Castlereagh Street
- MLC Centre
- 44 Martin Place, *Henry Davis York Building*.

Comparatively, the Pitt Street ISD and Central Station Main Works projects are situated further away from the subject site. Furthermore, these projects typically have several access points due to the large size of the site and sometimes utilise multiple compounds. Therefore, impacts due to construction vehicles associated with these projects typically would be disbursed throughout the road network and would have less of a concentrated or cumulative impact with vehicles travelling to/from the subject sites.

Figure 9.3: Location of Concurrent Construction Projects

City of Sydney's online development tracker and NSW Department of Planning, Industry and Environment's Major Projects website have been reviewed for details on construction-related traffic volumes. Table 9.2 presents a summary of the construction traffic generation of the above projects. Construction information for some projects has not been made available online. As a result, construction traffic volumes for these sites have been assumed to be similar to the MLC Centre development based on the size of the construction development.

Table 9.2: Traffic Generation of Other Major Project Constructions

Project	Contractor	Common Haulage Route Sections (Local Roads)	Peak Hourly Construction Traffic Estimate
50 Bridge Street	Multiplex	• Bent Street • Elizabeth Street • Castlereagh Street • King Street • St James Road	Up to 4 veh/ hour
MLC Centre	Probuild		Up to 2 veh/ hour
44 Martin Place	Probuild		Up to 1 veh/ hour
1-7 Castlereagh Street	Built		Unspecified. Assume up to 1 veh/ hour
60 Castlereagh Street	Dexus		Unspecified. Assume up to1 veh/ hour
Total			Subject sites: 15 veh/ hour (average across construction project duration) Nearby sites: 9 veh/ hour Total: 24 veh/hour

Whilst these projects are anticipated to overlap, cumulative traffic generation would not last the entire duration of the construction works at the subject site. Therefore, the above cumulative traffic generation presented in Table 9.2 is considered to be conservative.

9.11 Impacts to Light Rail

The proposed haulage routes do not utilise George Street where the Light Rail is located. Vehicles would utilise the surrounding road network, and would have no impact on the Light Rail operation.

10 Mitigation Measures

10.1 General Traffic Management Mitigation Measures

The effective management of traffic and the provision of a safe road environment are paramount to the success of this project. Measures that can be applied to minimise traffic disruptions are generally divided in four categories: design, isolation of work areas, work methods and road occupancy planning. To achieve these objectives, various measures would be applied which are discussed herein.

Table 10.1: Excavation and Construction

Management & Mitigation Measures	Person Responsible
Traffic controllers with approved clothing shall be provided to guide and control pedestrians on the footpath while trucks are entering/exiting the site.	CM & Site Supervisor
Pedestrian gates would be used to close the footpath on either side of the driveway to control pedestrian movements whenever a truck is entering/ exiting the site.	Site Supervisor & Traffic Controllers
Designated heavy vehicle routes would be nominated and monitored to minimise impacts on the road network and vehicle kilometres travelled. These routes would be communicated to truck drivers. Where practicable, these routes shall involve using arterial roads such as the Eastern Distributor in preference to city streets.	CM & Site Supervisor
Transportation of materials would be managed to maximise vehicle loads and minimise vehicle movements, where practicable.	Site Supervisor
In addition to relevant Australian Standards and Roads and Maritime guidelines, all traffic management shall also conform to WorkCover NSW Code of Practice for Working Near Traffic and Mobile Plant.	CM & Environmental Officer
All traffic control plans shall comply with AS1742.3:2002 Traffic Control Devices for Works on Roads and Roads and Maritime's Traffic Control at Work Sites.	Environmental Officer & PM
General signposting would be displayed on the hoardings with the appropriate warning signs.	Site Supervisor
Clean-up crews, including street sweepers, would be available to manage material spills.	Site Supervisor
Dust suppression measures would be used to control dust levels when trucks are being loaded on-site.	CM & Site Supervisor
If required, a wheel wash would be set up at the egress points from the site.	Site Supervisor
All loads except loads carrying metals (steel reinforcement, black iron, heavy steel, etc.) would be covered prior to leaving site.	Site Supervisor
Pedestrian and cyclist thoroughfares and road surfaces are kept safe for pedestrians, cyclists and traffic. Any potholes or other failures must be repaired without delay and within two days of the occurrence of the pothole or failure.	CM & Site Supervisor
Pedestrian management measures to be implemented to minimise impacts on pedestrian movement and maintain pedestrian safety (refer to TCP).	PM
General public access to surrounding areas including commercial, retail and residential properties would be maintained during excavation and construction.	CM & Site Supervisor
Hoardings would be utilised to separate pedestrians and site vehicle movements and to provide overhead protection.	CM & Site Supervisor
Constant traffic control shall be provided at the site access point to manage the interface between pedestrians and cyclists and site vehicle movements.	CM & Site Supervisor

Appropriate signage and hoarding will be installed to guide pedestrians and cyclists across the site access driveway.	CM & Site Supervisor
To provide for the safe movement of cyclists, project boundaries would be clearly defined through hoarding and/or fencing to separate site activities from cyclists. Cyclists are to travel as per the existing conditions in the general traffic lane in Castlereagh Street.	CM & Site Supervisor
Upon completion of the works, vehicular crossings would be removed and footpath restored to at least the state which existed prior to the commencement of the works.	CM & Site Supervisor
Upon completion of the temporary weekend works, temporary pedestrian detours, temporary public transport facilities and kerbside lane restored to at least the state which existed prior to the commencement of the works.	CM & Site Supervisor

10.2 Parking/ Loading/ Mail Zone/ Bus Zone Signage

Loading zone and parking signage on Castlereagh Street (east side), and bus zone signage on Elizabeth Street (west side) near the South Site would be replaced with works zone signage. Also, loading zone and parking signage on Elizabeth Street (west side) near the North Site would be replaced with work zone signage.

10.3 Traffic Control Plan

TCPs illustrate the arrangement of signage and devices to manage traffic at worksites during construction. The preparation of TCPs consider the following:

- Warning signage for vehicles and pedestrians at the site access to alert them of the presence of heavy vehicle traffic generated by the works, to warn/ inform drivers of changes to the usual road conditions, and to guide drivers through the worksite.
- Qualified traffic controllers to manage pedestrian and control activity at proposed site accesses.
- The movement of trucks to/ from the site access would be under normal traffic conditions.
- Pedestrians and all passing vehicles shall maintain priority at all times.
- Clear definition of the work site boundary to be provided by erection of hoarding around site boundaries adjacent to roads.
- All signage would be clean, clearly visible and not obscured.
- All vehicle movements generated by construction works would be minimised, where possible, during peak periods.

TCPs have been prepared in accordance with AS1742.3 and Roads and Maritime's Traffic Control at Work Sites Manual. It has been designed by qualified personnel with current "Select/Modify Traffic Control Plans", "Design & Inspect Traffic Control Plans" license, and/or possess the "prepare work zone traffic management plan" certification.

Construction vehicles would access any site in a forward direction only. To achieve this the following traffic management measures would be undertaken:

- No queuing or parking shall be permitted in any public road, with the exception of the Castlereagh Street and Elizabeth Street work zones that are proposed along the site frontages.
- Qualified traffic controllers be located at the site access points.
- Truck drivers to follow call ahead/ radio-in protocols to inform site personnel/ traffic controller when the vehicle is en route to site for immediate access to the site.
- When a truck is entering or leaving the site, pedestrian gates would be used to close the footpath on either side of the driveway to control pedestrian movements.
- Vehicles already on the road would have the 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 controllers.
- Pedestrians shall only be held for short periods of time to allow trucks to enter and exit from the site. Pedestrians have the right-of-way on the footpath and would not be stopped in anticipation.

Advanced warning signs would be installed on the approach to the site. All signs would be placed in accordance with relevant guidelines and standards. Messages shall be clear and easily interpreted by drivers, and should not create a safety hazard. Traffic controls across are shown in Appendix E.

10.4 Pedestrian Access Management

Pedestrian access shall be maintained at all times along the frontage streets. Existing pedestrian crossing movements and facilities are to be maintained at all nearby signalised intersections and mid-block locations.

B-class hoarding would provide overhead protection above the pedestrian footpath adjacent to the sites. All hoardings would feature lighting to ensure pedestrian safety at night, and would remain throughout the remaining construction period. Footpath widths under the B-class hoarding would allow two-way pedestrian flow in-line with Austroads requirement to provide sufficient space to accommodate prams and wheelchairs.

Suitable signage including the "Watch for Pedestrians" signs would be provided at egress points for construction vehicles to maintain pedestrian safety when pedestrians travel across the proposed vehicular crossings.

TCPs in Appendix E show the location of traffic controllers at the subject site. Based on NSW Road Rules drivers must give way to pedestrians crossing the road into which their vehicles are turning. Qualified traffic controllers with a "Stop-Slow" bat would manage and control vehicle movements at site access driveways. In addition, traffic controllers would be located

at the on-street work zones in Castlereagh Street and Elizabeth Street to assist construction vehicles accessing the work zone.

Traffic controllers located at site accesses would be notified by two-way radio whenever there is a heavy vehicle approaching and leaving the subject site. The traffic controllers would ensure the safe and efficient movement of pedestrians across the site access.

Cyclist access and safety would be managed as would general traffic in Castlereagh Street near the site access points.

10.5 Additional Enhancement for Road User Safety

Additional enhancements for pedestrian, cyclist and motorist safety in the vicinity of the subject site are to be implemented during construction works. These measures include:

- Specific heavy driver training to understand route constraints, expectations, safety issues, human error and its relationship with fitness for work and chain of responsibility duties, and to limit the use of compression braking.
- Use of In-vehicle Monitoring Systems (telematics) to monitor vehicle location and driver behaviour.
- Safety devices on heavy vehicles that warn drivers of the presence of a vulnerable road user located in the vehicles' blind spots and warn the vulnerable road user that a vehicle is about to turn.

10.6 Road Safety Audit

A Road Safety Audit has been conducted independently on this CTMP and associated TCPs in accordance with the RMS 'Guidelines for Road Safety Audit Practices (2011), with reference to current practices outlined in Austroads Guide to Road Safety Part 6 Road Safety Audit (2009) and the Sydney Metro Principal Contractor H&S Standard. The road safety audit has been undertaken with due consideration to the high levels of pedestrian activity in the Sydney CBD environments.

The Road Safety Audit is provided in Appendix F.

It is also understood that road safety audits must be prepared in consultation with the TTLG before the completion and use of the subject infrastructure and must be made available to the Secretary upon request.

10.7 Contingency Plans

The Project Team would develop contingency plans for all traffic control operations. Incidents may include late finishing road work, equipment breakdowns, poor weather conditions, and unplanned incidents. The table below briefly outlines the various actions, in respect to traffic management, which would be applied for these types of incidents.

Table 10.2: Contingency Plans

Incident	Action
Late Finishing Road Work	• In the event of late finishing road works, priority would be to make the road trafficable and then to remove all controls as soon as possible. The TMC is to be notified as soon as the possibility of late finishing work has been identified, and updated accordingly. • Where possible, cease work, remove restrictions and reprogram activity. Where works cannot be removed, monitor traffic flows and modify traffic controls / resources. • Expedite completion of works.
Equipment Breakdown	• Notify the TMC immediately, and update accordingly. • Where possible, cease work and remove restrictions. • Where works cannot be removed, source replacement equipment, make safe, or utilise another work method. • Modify traffic control and monitor traffic flows. • Consider use of Variable Message Sign (VMS) in consultation with City of Sydney.
Poor Weather Conditions	• Access risk / hazards, if necessary, postpone and reprogram works. • If works proceed, modify traffic control and source additional equipment to enhance safety. • Notify the TMC immediately and update accordingly. • Continue to monitor conditions, and if necessary, cease work and remove restrictions.
Unplanned Incidents	• Notify the TMC immediately, update accordingly. • Where possible, cease work and remove restrictions. • Modify traffic control and manage site until emergency services / RMS arrive. • Support emergency services / Roads and Maritime, as required. • When instructed by TMC, recommence works.

In the case that the construction works result in worsening of the traffic conditions, the Project Team shall review the measures identified in the CTMP in consultation with the TTLG. Any changes to the CTMP shall be submitted to Roads and Maritime for approval following Sydney Coordination Office endorsement.

10.8 Consultation and Communications

In association with TfNSW, the Project Team would undertake proactive consultation and communication with the community, road authorities, City of Sydney, emergency service agencies and key stakeholders in regard to traffic management.

All external communication with the community including businesses shall follow the guidelines set out in the Sydney Metro City & Southwest Community Communication Strategy. The community must be notified of any current and upcoming works and traffic arrangements that have the potential to impact stakeholders and the community prior to them occurring. A Community Communication Strategy would be developed by the Project Team to notify stakeholders that may be affected by changes to transport, access and local traffic arrangements.

For example, owners and operators of the neighbouring properties and businesses would be notified in advance of excavation and construction works by means of letterbox drop.

Any comment, feedback, complaint can be made to the Construction Manager and Senior Site Manager via the contact details listed in Section 3.4 and 3.5.

10.9 Implementation of Corrective Actions

Corrective actions would be implemented when inspections indicate a non-conformance with the objectives of this TMP. The specific type of action undertaken would relate to the issue causing non-conformance with respect to the desired management outcomes.

These corrective actions would be determined in consultation with City of Sydney, the Project Manager, Senior Environmental Officer and the appointed TfNSW representative. Where regulatory authorities are involved they would also be included in any consultation.

To ensure the rectification of any non-conformance within an appropriate timeframe, activities must cease until the situation is under control, or reappraisal of the action plan is completed and additional control measures introduced.

10.10 Site Inspections and Record Keeping

The following inspections would be undertaken to ensure that conditions accord with those stipulated in the plan and there are no potential hazards:

- Pre-start and pre-close down inspections of short-term traffic control.
- Weekly inspections of long-term traffic control (i.e. more than one shift).
- Night inspections of long-term traffic control.

Any possible adverse impacts would be recorded and dealt with if they arise.

10.11 Staff Training

Site Induction

All staff employed on the site (including sub-contractors) would be required to undergo a site induction.

The induction would include approved access routes to/from the subject site for site staff and delivery vehicles as well as standard environmental, WH&S, driver protocols and emergency procedures.

All personnel employed on the Sydney Metro City & Southwest excavation and construction stages would perform their duties in accordance with the requirements of this CTMP and in compliance with the manuals and procedures outlined, and any specific Project Plans or instructions.

Driver Training

Heavy vehicle drivers shall be made fully aware the worksite traffic management arrangements and site access requirements including specific heavy driver training to understand route constraints, expectations, safety issues, human error and its relationship with fitness for work and chain of responsibility duties, and to limit the use of compression braking. Driver training would take into account current best practice and information including Cycle Awareness Training.

All drivers would take the mandatory Sydney Metro City & Southwest project specific Heavy Vehicle Driver Introduction Training.

11 Complaint Management

The ROL register would maintain records of traffic accidents and incidents reported at work sites. Any complaints received regarding traffic delays at work sites would be referred to the Project Team. Upon request, the register may be required to be provided at meetings with Traffic Control Groups. The person in charge of the work site would be responsible for dealing with complaints regarding safety issues.

Reference should be made to The Community Consultation Management Plan for Complaint Management.

12 Signature of Employees

Project No:

Project Name: Sydney Metro City & Southwest - Chatswood to Sydenham.

Martin Place Metro Excavation, Station and North and South Over Station Development Construction

Client: TfNSW

Date: _____

Induction Presenter: _____

Note: You are signing to say you understand and will work to this Traffic Management Plan in entirety. Do NOT sign if you are not comfortable, do not understand or are unqualified / untrained to undertake the works outlined in this Traffic Management Plan, if you feel you cannot sign then talk to the site supervisor and he/she shall find alternative tasks for you.

Name	Company	Signature	Date

13 Conclusions

This CTMP has been prepared to document the proposed activities and traffic management measures associated with the Martin Place Metro excavation and station construction works at the North Site and South Site. The preparation of this CTMP is in accordance with the requirements set out in various Sydney Metro documents and City of Sydney Guidelines.

Based on the findings of the report, it is concluded that:

- The construction activities occur at the North Shaft site, South Shaft site and Bligh Street Site Compound. All vehicle movements to/from the site and to/from work zones would be undertaken in a forward direction.
- There are no major impacts to parking, loading zones, mail zones and bus zones caused by the proposed works.
- Construction traffic volumes would not impose adverse impacts on the surrounding local road network in conjunction with the nearby major construction works.
- Vehicle movements to and from the site associated with excavation and construction activities can be satisfactorily accommodated by the surrounding road network.
- There would be no impacts to taxi zones, mail zones, bus zones and services.
- The proposed site access would be managed by qualified traffic controllers to ensure safe and efficient movement of all road users including pedestrians and cyclists.
- The site is located within short walking distance to public transport hence staff would be encouraged to use public transport when travelling to/from the site to minimise traffic impacts on the surrounding road network.
- A number of driver protocols would be established as part of the site induction procedure for drivers to ensure the safety of road users.

Overall, traffic arrangements for excavation and construction stages of the project are considered acceptable.

Ongoing consultation shall be held with TTLG and other relevant authorities to ensure that this CTMP, subject to approval, is implemented in accordance with the requirements.

Appendix A

City of Sydney CTMP Standard Requirements

APPENDIX A

The City of Sydney
Standard Requirements for Construction Traffic Management Plan

The Applicant or contractor undertakes to follow and abide by the following requirements at all times during the demolition, excavation and construction works at (MARTIN PLACE NORTH SITE & SOUTH SITE, SYDNEY CSSI 7400)

1. Details of routes to and from site and entry and exit points from site – site specific

2. Details of roads that may be excluded from use by construction traffic i.e. roads with load limits, quiet residential streets or access/turn restricted streets – site specific

3. The approved truck route plan shall form part of the contract and must be distributed to all truck drivers.

4. All vehicles must enter and exit the site in a forward direction (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

5. Trucks are not allowed to reverse into the site from the road (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

6. The Applicant must provide the City with details of the largest truck that will be used during the demolition, excavation and construction.

   NOTE: No dog trailers or articulated vehicles (AV) to be used (unless specific approval for a **one-off occasion** is obtained from the City's Construction Regulation Unit).

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

8. No queuing or marshalling of trucks is permitted on any public road.

9. Any temporary adjustment to Bus Stops or Traffic Signals will require the Applicant to obtain approval from the STA and RMS respectively prior to commencement of works.

10. All vehicles associated with the development shall be parked wholly within the site. All site staff related with the works are to park in a designated off street area or be encouraged to use public transport and not park on the public road.

11. All loading and unloading must be within the development site or at an approved "Works Zone".

12. The Applicant must apply to the City's Traffic Works Co-ordinator to organise appropriate approvals for Work Zones and road closures.

13. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for partial road closures.

14. The Applicant must apply to the Transport for NSW's Transport Management Centre for approval of any road works on State Roads or within 100m of Traffic Signals and receive an approved Road Occupancy Licence (ROL). A copy of the ROL must be provided to the City.

15. The Applicant must apply to the City's Construction Regulations Unit to organise appropriate approvals for temporary driveways, cranes and barricades etc.

16. The Applicant must comply with development consent for hours of construction.

17. All Traffic Control Plans associated with the CTMP must comply with the Australian Standards and Roads and Maritime Services (RMS) Traffic Control At Work Sites Guidelines.

18. Traffic Controllers are NOT to stop traffic on the public street(s) to allow trucks to enter or leave the site. They MUST wait until a suitable gap in traffic allows them to assist trucks to enter or exit the site. The Roads Act does not give any special treatment to trucks leaving a construction site - **the vehicles already on the road have right-of-way.**

19. Pedestrians may be held only for very short periods to ensure safety when trucks are leaving or entering BUT you must NOT stop pedestrians in anticipation i.e. **at all times the pedestrians have right-of-way on the footpath not the trucks**.

20. Physical barriers to control pedestrian or traffic movements need to be determined by the City's Construction Regulations Unit prior to commencement of work.

21. The Applicant must obtain a permit from the City's Construction Regulation Unit regarding the placing of any plant/equipment on public ways.

22. The Applicant must apply to the City's Building Approvals Unit to organise appropriate approvals for hoarding prior to commencement of works.

23. The CTMP is for the excavation, demolition and construction of building works, not for road works (if required) associated with the development. Any road works will require the Applicant or the contractor to separately seek approval from the City and/or RMS for consideration. Also WorkCover requires that Traffic Control Plans must comply with Australian Standards 1742.3 and must be prepared by a Certified Traffic Controller (under RMS regulations).

24. Please note that the provision of any information in this CTMP will not exempt the Applicant from correctly fulfilling all other conditions relevant to the development consent for the above site.

Appendix B

TCG Meeting Minutes

Meeting Notes

Sydney Metro City & Southwest - Traffic Control Group

Date	Tuesday 4 December 2018	**Time**	8:00 am – 8:40 am
Venue	Room 43.19, 680 George Street, Sydney		
Chairperson	Giovanny Ramirez GR	**Agency**	**Discipline**
Attendees	Philip Brogan PAB Stephen Brown SB Chao Chen CC Jake Coles JC Berin Gordon BG Ken Hind KH Aurika Imtiaz AI Tony Ly TL Declan McGarry DM Carl Mella CM Victor Setiadi VS Ian Webb IW	SM SCO RMS SCO SM SM SCO City of Sydney TSE RMS RMS L Lease	Traffic & transport Traffic & transport Metro interface (Sth) Traffic & transport TSE contract mgt Traffic & transport Traffic & transport Traffic & transport TSE contractor Metro interface (CBD) Metro interface (Nth) M Place contractor
Apologies	Gordon Farrelly GF Naomi Fiegel NF Michaela Kemp MK	Willoughby CI SM North Syd CI	

Agenda Item No.	Action / Decision	Action By	Due Date
1.	**Welcome & Confirmation of Minutes**		
	Minutes of previous meeting were accepted.		
2.	**Actions arising from the Minutes**		
	TSE - Hickson Road parking changes. DM to advise TL the area consulted for the options for the proposed temporary bus stop/parking arrangements. Would be in place for at least two years. SSJ - JC noted that the proposed partial and full road closures of Burrows Ave would require the preparation and approval of a CTMP addendum. SSJ to action. SSJ - GR noted that as CTMPs provide the basis for the preparation of TCPs, changes to TCPs not already addressed within the approved CTMP will require amendment of the CTMP prior to the commencement of the works. PD to action. Central - In relation to the Chalmers Street searches that rely on diverting pedestrians via the Light Rail zone, GR suggested AC contact the Light Rail contractor. TSE Chatswood - GR noted that SCO/RMS need to know,	DM (open) PD (open) PD (open) AC	

Agenda Item No.	Action / Decision	Action By	Due Date
	in advance, when and how it is planned to introduce the central median and the associated switch to a single left turn lane from Hampden Rd to Mowbray Rd. TSE Chatswood - VS asked about the status of the (Mowbray/Hampden) provisional plan and DM noted that he is actioning. VS asked for clarity on the CCTV footing works and the related coordination with a Telstra site visit. TSE - GR asked BG to clarify if the TSE contract provides for the running of emergency planning scenarios in advance of TBM commissioning.	DM DM BG	
3.	**City & Southwest – Northern Corridor Works (NCW)**		
	Nil report.		
4.	**City & Southwest – SSJ (Sydenham upgrade)**		
	Nil report.	PD	
5.	**City & Southwest – Central**		
	Nil report.	AC	
6.	**City & Southwest – TSE**		
	DM spoke to the attached slides. <u>O'Connell Street (AM peak):</u> • DM noted that in peak periods it is difficult for the TSE HVs exiting the work site to join the traffic lane because of queued traffic. TL noted that Council does not support traffic control of through traffic for the purpose of allowing construction vehicles to access through traffic lanes. GR asked that the TSE contractor consult with the City of Sydney regulation team and, in the view of SCO, any use of traffic controllers would only apply to HVs in the AM peak period and would not apply to light vehicles exiting the work site. <u>Marrickville segments:</u> • DM noted that it is proposed to transport segments on 19m long semi-trailers from one driveway in Sydney Steel Road to another driveway, a distance of about 400m. Traffic control is not required and the swept paths into the site have been checked by the TSE contractor (existing heavy vehicle driveways to what were factories). GR advised that the TSE contractor must consult with Council and advise SCO of Council's response. SCO stated they would have no objection to the proposal subject to RMS and Council agreement. <u>CTMP Status Update:</u> Refer to slides. All CTMP actions currently sitting with the		

Agenda Item No.	Action / Decision	Action By	Due Date
	TSE contractor.		
7.	**Martin Place Metro Station – Lend Lease**		
	IW spoke to the attached slides. <u>North Shaft Excavation works:</u> • IW noted that because of internal grade differences within the Marin Place North site it is proposed not to route trucks in via Castlereagh and out via Elizabeth as provided for in the approved EIS but to operate left in and left out via Castlereagh Street. • About 40 HVs per day after July 2019. • Single unit tippers proposed. There was general discussion about the route alternatives. GR noted that part of the logic behind the EIS routing through the northern site was to avoid left turns into King and Elizabeth Streets. GR noted that there may be scope to run some HVs in via Castlereagh then out via Hunter to head west. GR asked that the contractor document the proposed arrangement is a CTMP addendum.	**IW**	
8.	**Other Matters**		
	Nil other matters.		
	Next Meeting: The next TCG meeting is scheduled for Tuesday 11 December 2018 at 8:00 am – 10:00am (Room 43.20).		

Meeting Notes

Sydney Metro City & Southwest - Traffic Control Group

Date	Tuesday 18 December 2018	**Time**	8:00 am – 9:30 am
Venue	Room 43.19, 680 George Street, Sydney		
Chairperson	Giovanny Ramirez GR	**Agency**	**Discipline**
Attendees	Martin Bibb MB Philip Brogan PAB Chris Brown CB Chao Chen CC Paul Dalziel PD Gordon Farrelly GF Simon Ferris SF Naomi Fiegel NF Paul Fields PF Berin Gordon BG Ken Hind KH Tony Ly TL Declan McGarry DM Craig McGeoch CMc Carl Mella CM Victor Setiadi VS Sajid Shaikh SS Pauric Smith PS Todd Solomon TS Chris Standing CS Ian Webb IW	L O'Rourke SM SM RMS SSJ Willoughby CI TSE SM SSJ SM SM City of Sydney TSE SM RMS RMS SM TSE SM L O'Rourke L Lease	NCW contractor Traffic & transport SSC Metro works Metro interface (Sth) SSJ contractor Traffic & transport TSE contractor Stakeholder relationships SSJ contractor TSE contract mgt Traffic & transport Traffic & transport TSE contractor Traffic & transport Metro interface (CBD) Metro interface (Nth) SSJ contract mgt TSE contractor M Place contract mgt NCW contractor M Place contractor
Apologies	Stephen Brown SB Jake Coles JC Aurika Imtiaz AI Michaela Kemp MK	SCO SCO SCO North Syd CI	

Agenda Item No.	Action / Decision	Action By	Due Date
1.	**Welcome & Confirmation of Minutes**		
	Minutes of previous meeting were accepted.		
2.	**Actions arising from the Minutes** (actions arising where not discussed at this meeting)		
	TSE - Hickson Road parking changes. DM to advise TL the area consulted for the options for the proposed temporary bus stop/parking arrangements. Would be in place for at least two years. SSJ - JC noted that the proposed partial and full road closures of Burrows Ave would require the preparation and approval of a CTMP addendum. SSJ to action. SSJ - GR noted that as CTMPs provide the basis for the	DM (open) PD (open)	

Agenda Item No.	Action / Decision	Action By	Due Date
	preparation of TCPs, changes to TCPs not already addressed within the approved CTMP will require amendment of the CTMP prior to the commencement of the works. PD to action.	PD (open)	
	Central - In relation to the Chalmers Street searches that rely on diverting pedestrians via the Light Rail zone, GR suggested AC contact the Light Rail contractor.	AC	
	TSE Chatswood - GR noted that SCO/RMS need to know, in advance, when and how it is planned to introduce the central median and the associated switch to a single left turn lane from Hampden Rd to Mowbray Rd.	DM	
	TSE Chatswood - VS asked about the status of the (Mowbray/Hampden) provisional plan and DM noted that he is actioning. VS asked for clarity on the CCTV footing works and the related coordination with a Telstra site visit.	DM	
	TSE - GR asked BG to clarify if the TSE contract provides for the running of emergency planning scenarios in advance of TBM commissioning.	BG	
	M Place (L Lease) - GR asked that the contractor document the proposed access north shaft excavation works in a CTMP addendum.	IW	
3.	**City & Southwest – Northern Corridor Works (NCW)**		
	CS / MB spoke to the attached slides: • A revised CTMP has been documented addressing works for the removal of Nelson Street bridge. • Preferred approach is Option A – 2 two cranes working from both sides of the rail corridor. • Works proposed on Weekend 34 (23/24 Feb 2019). • Span 1 removed using crane on eastern side of rail corridor and spans 2 and 3 removed using crane on western side of corridor. • Semi trailers arrive in Orchard Street and reverse into Nelson Street under traffic control. Semi trailers arrive in the Pacific Highway and reverse into Nelson Street under traffic control. • On street car parking in Nelson Street removed for the duration of the weekend works. • Alternative accommodation has been offered to residents in the vicinity of the works. GR advised that property access needs to be maintained. GR noted that the semi trailer reverse movements should be done one at a time. GR asked if the semi trailers can be turned around in Nelson Street and CS noted that if the semi trailers are driven into Nelson Street in a forward direction it would be more problematic to reverse the laden vehicles out into the Highway and Orchard St. GR asked what would be put in place at either end of Nelson Street after the bridge has been removed and MB noted that concrete barriers and a 2.4m high fence would		

Agenda Item No.	Action / Decision	Action By	Due Date
	be erected. GR asked if there was any risk of train delays in the event the works went over time and MB advised that this is unlikely. GR asked that a conference call be set up at 3 or 4pm on the Saturday so that SCO can be informed on works progress. GF asked if the cranes can be used without causing pavement damage and MB advised that pads will be used to avoid damage. GF noted that any damage to the Orchard St pedestrian refuge would need to be repaired. GF suggested that the NCW contractor advise the community about the works and that it may want to use the Council website to assist with this. GF asked where it is proposed to store the semi trailers on approach to the site noting that parking on local roads was not supported. CS responded that it was to be finalised but won't be on the local road network. GF asked that the NCW contractor consider the noise impacts of the semi trailer reverse alarms.	CS CS	
4.	**City & Southwest – SSJ (Sydenham upgrade)**		
	PD / PF spoke to the attached slides. • Non possession works summary provided • Burrows Ave pram ramp and refuge works – 7 January 2019. • Burrows Ave slip lane closure – Q1 2019 • Demolition of 11 Sydenham Rd – Jan 2019. • 450 t crane for piling rig works – Jan 2019 • Partial (type 1) Burrows Ave road closure planned for 29/30 March 2019. • Full (type 2) Burrows Ave road closure planned for June 2019. TCPs tables. <u>SSJ extension works (Sydenham to Bankstown related):</u> Possession works planned for weekend 30 (Sunday 27 – Tue 29 Jan 2019). • Includes: General access the rail corridor using existing gates, traffic management for plant parking during weekend 30 and lane closures for under bridge inspections. • Non possession underbridge inspection works at Victoria Rd, Ness Ave, Foord Ave, Charles St, Cooks River and Waiora St in Jan 2019. Maintain single lane access at all times under bridges, no state or regional roads impacted. • Parking loss at stations to be defined. GR noted that the extension works are low impact and given the timeframes, CTMP preparation will not be required. GR asked that entry routes, swept paths and TCPs, if required, be provided for entry and exits at the key gate locations and that Council and/or Sydney Trains as land owners be contacted regarding the parking impacts. PD noted that the SJJ contractor will meet with Inner West Council later today.	PD	

5.	**City & Southwest – Central**		
	Nil report.	AC	
6.	**City & Southwest – TSE**		
	DM / PS spoke to the attached slides. <u>Pitt Street South:</u> • Access overview, refer to slides. • Future works (2020) for demolition would include full closure of Pitt Street south of Bathurst Street for some works and that traffic would be diverted to George Street via Wilmot Street or Central Street. This would be following light rail works on George Street. GR noted that these streets are currently closed at George Street and Council may want to retain the closures in the future. TL will check and respond. <u>Martin Place South:</u> • Additional swept paths added • Single movement access/egress • Truck volumes as per EIS 26/ • Approx. 8-12hv/hr at height of haulage PAB noted that the EIS estimated about 26/27 HVs per hour in the interpeak busiest period. The Martin Place Modification report states: "*Due to the additional demolition, excavation and fitout works required for the proposed modification, there would be an increase in overall heavy vehicle movements (of around 30 to 50 per cent) at Martin Place compared to the approved project. However, this would extend the overall duration of construction activities at Martin Place and would not result in an increase in peak hourly heavy vehicle movements for any construction activity*." GR noted that the EIS provides for egress directly onto Elizabeth Street from the Martin Place north and south work sites which has not be adopted, placing additional pressure on Castlereagh Street. <u>Chatswood Operations CTMP:</u> • DM advised changes to Hampden Rd (two left turn lanes to one left turn lane) will occur week commencing January 7, 2019. No objections were raised. • Program for traffic signal installation on slide 7 indicates signals aim to be operational in week commencing February 18 2019. GF asked about the extent of the before and after traffic signal installation monitoring suggesting that trigger points in Elizabeth Street and Orchard Road might also be considered. <u>Mowbray Road King Piles:</u> • The road closure period increased the risk of over run of the works due to required curing timing for	**TL**	

	piles. • 24hr works would have had resident amenity impacts. • Works to be completed from inside the rail corridor. GR noted that working from the rail corridor and avoiding lane closures in Mowbray Road would be a win win situation for the community as it would minimise the traffic impacts. <u>Martin Place Pedestrian Bridge Installation Works:</u> PS provided an overview of the works and how they will operate. Refer to slides for works program. GR noted that works will continue throughout Sunday and that the pedestrian bridge would be operational on the Monday morning. GR asked that a telephone number be provided to him so that he can contact a TSE representative to check on works progress. PS advised he would provide a contact list. TL asked that Joshua be contacted to clarify haulage routes to be used. PS advised OSOM permits have been obtained. <u>CTMP Status Update:</u> Refer to slides.	PS PS	
7.	**Martin Place Metro Station – Lend Lease**		
	IW spoke to the attached slides. <u>North Shaft Excavation – Cumulative Traffic Impacts:</u> • EIS vehicle numbers evenly split between the north shaft and south shaft sites • Current TSE Martin Place Stage 4 Draft CTMP accounts for 100% of EIS HV estimates. • SMMP-ISD CTMP program May 2019 –2023 • TSE CTMP program February 2019 –May 2020 • Indicative generation volume provided on slide 6, (exclude modification report increases) • SMMP-ISD CTMP will discuss the broader requirements of the Martin Place precinct SMMP-ISD and TSEJV will coordinate to ensure that Martin Place precinct volumes do not exceed EIS volumes		
8.	**Other Matters**		
	Nil other matters.		

	Next Meeting: The next TCG meeting is scheduled for Tuesday 8 January 2019 at 8:00 am – 10:00am (Room 43.06).		

Meeting Notes

Sydney Metro City & Southwest - Traffic Control Group

Date	Tuesday 28 July 2020	**Time**	8:00 am – 9:25 am
Venue	Teams videoconference		
Chairperson	Jake Coles JC	**Agency**	**Discipline**
Attendees	Kevin Barry KB Philip Brogan PAB Stephen Brown SB Bernard Grace BG Ken Hind KH Garry Hitchcox GHi Michael Holmes Wayne Johnson WJ Daniel Kelly DK Michaela Kemp MK Olga Krikelis OK Van Le VL Fraser Leishman FL James Mann JM Andrew McDonald AM Declan McGarry DMcG Carl Mella CM John Nguyen JN Nick Papanikolaou NP Sushane Perera SP Giovanny Ramirez GR Vidushi Sahni VS Cameron Savage Sajid Shaikh SS Mong Sim MS Tim Sloan TS Angela Stead AS Luke Wilby	SM SM Trans Coord. L O'Rourke SM SM SM L Lease L O'Rourke North Syd Cl. SM City of Sydney P&P SM L Lease TSE P&P SM CPB T2M Trans Coord. Trans Coord. L Lease SM S Connect SM L O'Rourke TfNSW	Linewide contract Mgt. Traffic & transport Traffic & transport SSJ contractor Traffic & transport Traffic & transport Health & Safety M Place advisor Central contractor Traffic & transport TSE contract mgt Traffic & transport Metro Interface M Place contract mgt Martin Place contractor TSE contractor Metro interface V Cross contract mgt Pitt St ISD contractor Southwest contractor Traffic & transport Traffic & transport M Place contractor SSJ contract mgt Linewide Southwest contract mgt SSJ contractor Centre for Road Safety
Apologies	David Banjac DB Mark Dunn MD Paul Enright PE Abdullah Khan AK Myles Leabeater ML Ryan Madden RM Alex Zeidan AZ Alex Wilson AW		

Agenda Item No.	Action / Decision	Action By	Due Date
1.	**Welcome & Confirmation of Minutes**		
	Minutes of previous meeting were confirmed.		

Agenda Item No.	Action / Decision	Action By	Due Date
2.	**Actions arising from the previous meeting**		
	No outstanding actions		
3.	**City & Southwest - Southwest**	**SP**	
	SP spoke to the attached slides Southwest Works: • Cornelia St and Urunga Pde. Wiley Park service building, water mains run through building site, potholing required on footpath and rail side to assess location. • Suction truck to be parked on footpath for both. • Will need to stop pedestrians along Stanlea Pde • Traffic controllers at each end • One shift only for work JC asked how much of a detour for pedestrians. SP noted that detour would be via Shadforth St and Lakemba St to Cornelia St. JC asked if any property access issues were likely. SP noted that there would be no access issues for residents. JC asked about the council land, and SP noted that the contractor will meet with Council Thursday.		
4.	**City & Southwest – Central**	**DK**	
	DK spoke to the attached slides: • Right turn into SYAB – CTMP Rev 4. Understand only at night, waiting on comments back, asked for this week. • P&P advised that Saturday nights would not be acceptable Eddy Ave hydrant works: • Need to tap into existing main on Eddy Ave. • Outlined works. Need to set up hoarded area – bring in vac truck – excavate – locate water mains – Sydney Water turn off at night and cut into pipe and install new valve & t-section. • No more than 10 vehicle movements per day, 2 tonne tipper for materials, outside of peak times, coordinating with light rail. • Want to start in 2-3 weeks' time, daytime outside peaks, preparing basic CTMP, contractor has approvals for closing of footpath. General discussion about the proposed works. Discussions with Light Rail and Sydney Trains ongoing. GR asked how trucks access the works site and DK noted that they will use emergency lane and mount footpath on Eddy Ave to reverse into the site. Height restrictions have been checked. Chalmers St hydrant: • Need to connect to main in Chalmers Street at eastern entrance to Metro, in footpath, 6 days working 24 hours. • Need to decide where to place vac truck to minimise impact for peds and cyclists.		

Agenda Item No.	Action / Decision	Action By	Due Date
	• May park on footpath in front of hospital, direct peds onto cycle path and have cyclists walk around. • DK looking at same time as Eddy Ave but hope to start earlier. Propose working around the clock with noisy work in day, otherwise could take 10-12 days working only at night • General discussion about the proposed works. GR asked if could work at night. DK said noise is an issue for night works for excavating. VL agreed that noise could be an issue. JC suggested covering hole during day. DK replied hole too big to plate over during day as it is 4m long x 2m wide CM said there is concern about having pedestrians on green cycle path as per previous Network and Safety advice. DK noted that in that case the peds would need to be diverted to other side of the road. LW noted that he shares the concerns already expressed. GR suggested weekends only and backfill during week as has been done for light rail works. DK will investigate but suspects not as 1-2 days to excavate, then 2-3 days of backfilling. DK to check if works can be done on weekend and what diversions for pedestrians via traffic lights would involve.	**DK**	
5.	**City & Southwest – SSJ - Sydenham**	**BG**	
	BG spoke to the attached slides: Works Update. Refer to slides. • Sydenham Road pedestrian signals, possible commissioning today. • Underbore - updated TCP to show ped path on Hogan Ave and resubmitted. 132 kV underbore – hoping to submit CTMP today for comments. Goes for two months in Hogan Ave, most of October and November 2020 • HV trench to Railway Pde, CTMP under preparation, need to go back to bus operators • Temp works – Railway Pde/Gleeson Ave to be submitted soon. • Bus operations briefing, most items closed out • CTMP update Extension works: • Garnet St works still on hold • Ped detours in principle agreement from council • Wairoa Ave ped diversion TCP tabled, now diverting peds to other side of the street • Tranche 1B CTMP update Rev 9 to be submitted.		
6.	**City & Southwest – TSE**	**DMcG**	
	DMcG spoke to the attached slides: • Martin Place - proposing to maintain current arrangement to Nov 2020 or until increased ped		

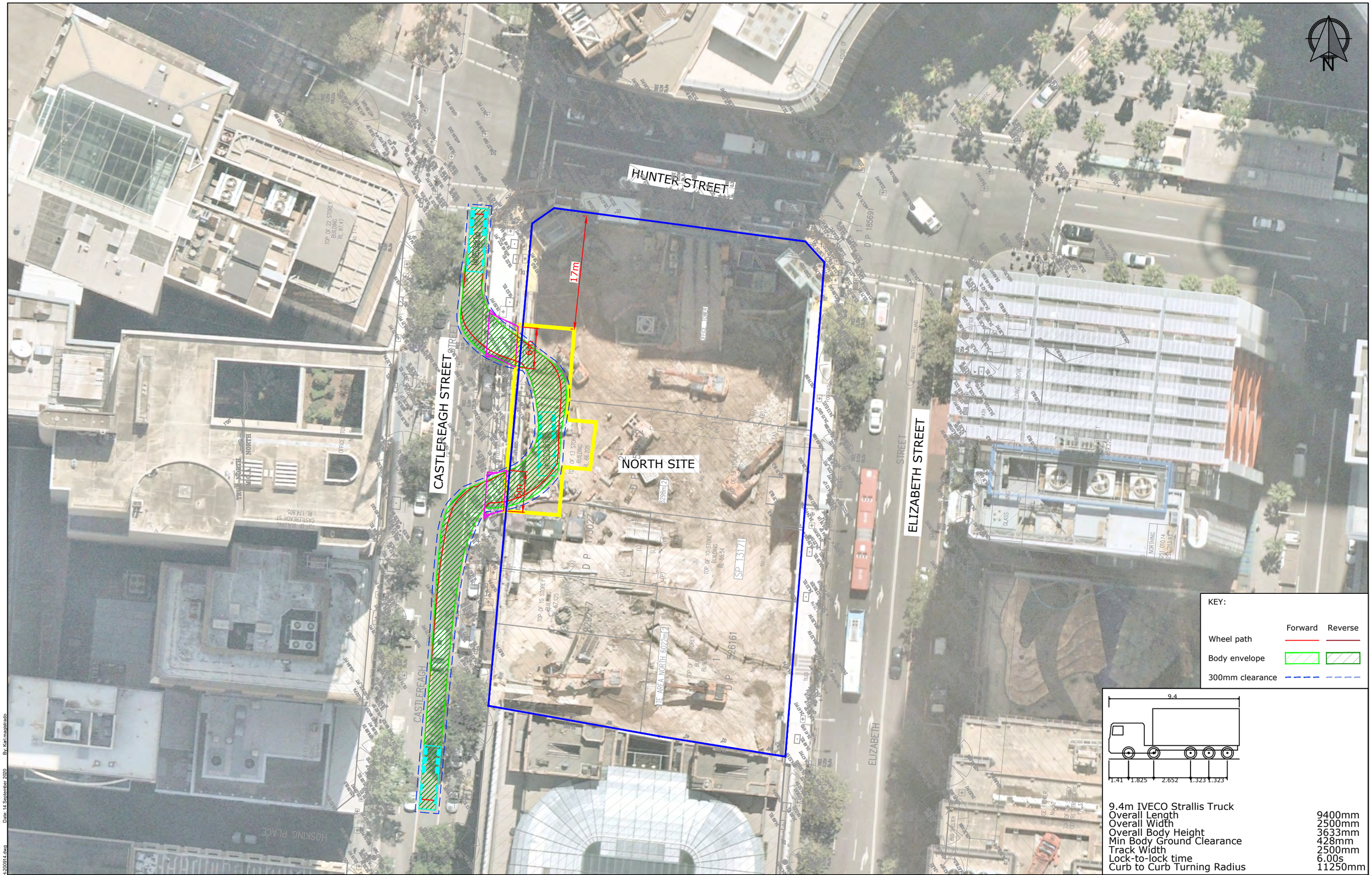
Agenda Item No.	Action / Decision	Action By	Due Date
	volumes through the area require reinstallation of wings. • Monitoring each day would then reinstall if volumes increased – 5 day operation to reinstall wing JC asked how much longer and DMcG said Nov 2020 or when ped volumes increase. DMcG will update CTMP with the above. JC commented that CTMP will also need to talk about monitoring procedure. DMcG will update each week. FL commented that would have to provide target number which would trigger reinstallation. DMcG to update and send out this week. Castlereagh St stage 2: • Removal of barriers at crossing to previous arrangement. CTMP sent last week and asked if any comments. JC indicated yet to review but should not take too long. DMcG keen to progress. Marrickville: • Marrickville Metro works delayed so TSE pushing ahead. • Edinburgh Rd barrier installation starting 17 Aug 2020. • Bus stop mods on Edinburgh Rd late Aug early Sept 2020, currently used as layover, would remove shelter to do works. May need temporary layover space. • Underbore – starting launch pit at night and plate , underbore done over a weekend, date to be confirmed, how buses operate to be confirmed • Currently in discussion with buses to ensure access is available.		
7.	**City & Southwest – Linewide**	**MS**	
	MS spoke to the attached slides: Crows Nest truck route update • Checked turn path at Alfred St roundabout Elizabeth Street potholing work: • Trenching for conduit happening tonight and tomorrow night Reserve Rd trench BPS: • In addition to 33kV, need to do cutover for existing Ausgrid trench along Reserve Road, showed diagram, also relocate Sydney Water main as well. • Traffic staging under development. • Possible contra flow during work and local road closure when gets to Carlotta Ave. • Joint bay at southern end may require extended lane closure. • Currently programmed for mid-October		

Agenda Item No.	Action / Decision	Action By	Due Date
	JC asked if out of hours work. MS replied that believe to be night work but Carlotta Ave may be day work. Will be speaking with Willoughby Council. JC commented that works permitted depends on local access needs of businesses. • CTMP to be submitted in 4 weeks PAB asked about shed removal and Hume St, is it proposed to deliver any aspect of works by WAD. KB replied that does not form part of a WAD. CM noted that middle shed removal should be submitted as addendum to CTMP and confirm that traffic signals are not impacted. MS replied hope to submit this week.		
8.	**City & Southwest – Martin Place ISD**	**CS/AM**	
	MD spoke to the attached slides • Still operating through Bligh Street • CTMP approved for Castlereagh Street work zone • Use of semis under review. • Responding to comments, alternative haulage route to eliminate corners where issues • Deliveries to be off-peak. • 3 deliveries per day to north and 3 to south site • Want to do the trial run to test swept paths • Deliveries to start August 2020 General discussion about the use of semi-trailers for reinforcement deliveries. CM asked what approval has been received from CoS. Have discussed with J Faull. CS to forward to VL. PAB asked AM to address haulage route deviations / justification in the CTMP. LW noted that the trial will not guarantee safe movements and asked for further mitigations. WJ suggested some form of decals at intersections to be used to ensure peds stand back. LW replied would help VL noted the need to avoid lunch time peaks. CS replied will look at avoiding. WJ suggested some form of decals at intersections to be used to ensure peds stand back. LW replied would help. • Outlined original route, identified restricted intersections and provided swept paths for new route VL noted the Pitt St pop up cycle lane. CS said they will not impact. VL asked if smaller trucks ca be used rather than semi-trailers, CS noted that they could but with an increase in truck generation. VL asked that this justification be included in the CTMP. JC noted that the works will require monitoring and possible reversion to smaller trucks. JM asked what feedback is to be collected during the trial, WJ indicated a series of videos from inside and outside the vehicles. General overview of swept paths.	**CS**	

Agenda Item No.	Action / Decision	Action By	Due Date
	LW noted tight location at Spring St / Bent St with on street parking and narrow street. Hunter St / Castlereagh St also tight. • CS to do additional swept paths at Spring St / Bent St and update CTMP with swept paths. Also identify parking restrictions in place at time of transport. • CTMP to be submitted including use of Bligh St and takeover of south shaft in Dec 2020. 2nd tower crane installation: • Does not require full closure, one lane retained for traffic. In process of obtaining ROL's • Loadout platform operational from 2nd week of August 2020. • In and out from Castlereagh St with traffic control.	**CS**	
8.	**Other matters**		
	Nil other matters.		
9.	**Next Meeting:** The next TCG meeting is scheduled for Tuesday 11 August 2020 at 8:00 am – 10:00am (Teams Videoconference).		

Appendix C

Swept Path Analysis



9.4m IVECO Strallis Truck

Overall Length	9400mm
Overall Width	2500mm
Overall Body Height	3633mm
Min Body Ground Clearance	428mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	11250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	14/09/20

ttpp transport planning

PROJECT
SYDNEY METRO PROJECT
MARTIN PLACE STATION

TITLE
SWEPT PATH ANALYSIS
9.4m IVECO STRALLIS TRUCK

DWG No. 18228CAD052
FIGURE 1

DATE STAMP 14 SEPTEMBER 2020

PROJECT No. 18228 | SCALE 1:500 @ A3 | REV. A

Filename: 18228CAD052-SWEPT PATH-200914.dwg
Date: 14 September 2020
By: Karl magistrado

Concrete Pour
South Tower
3 Trucks per Hour

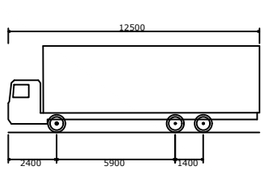
COLUMN LOCATION TO BE ADJUSTED

COLUMN LOCATION TO BE ADJUSTED

ELIZABETH STREET

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



HRV - Heavy Rigid Vehicle

Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

By: Karl.magistrado
Date: 18 September 2020
Filename: 18228CAD053-SWEPT PATH-200918.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	18/09/20

ttpp transport planning

PRO.

MARTIN PLACE METRO STATION

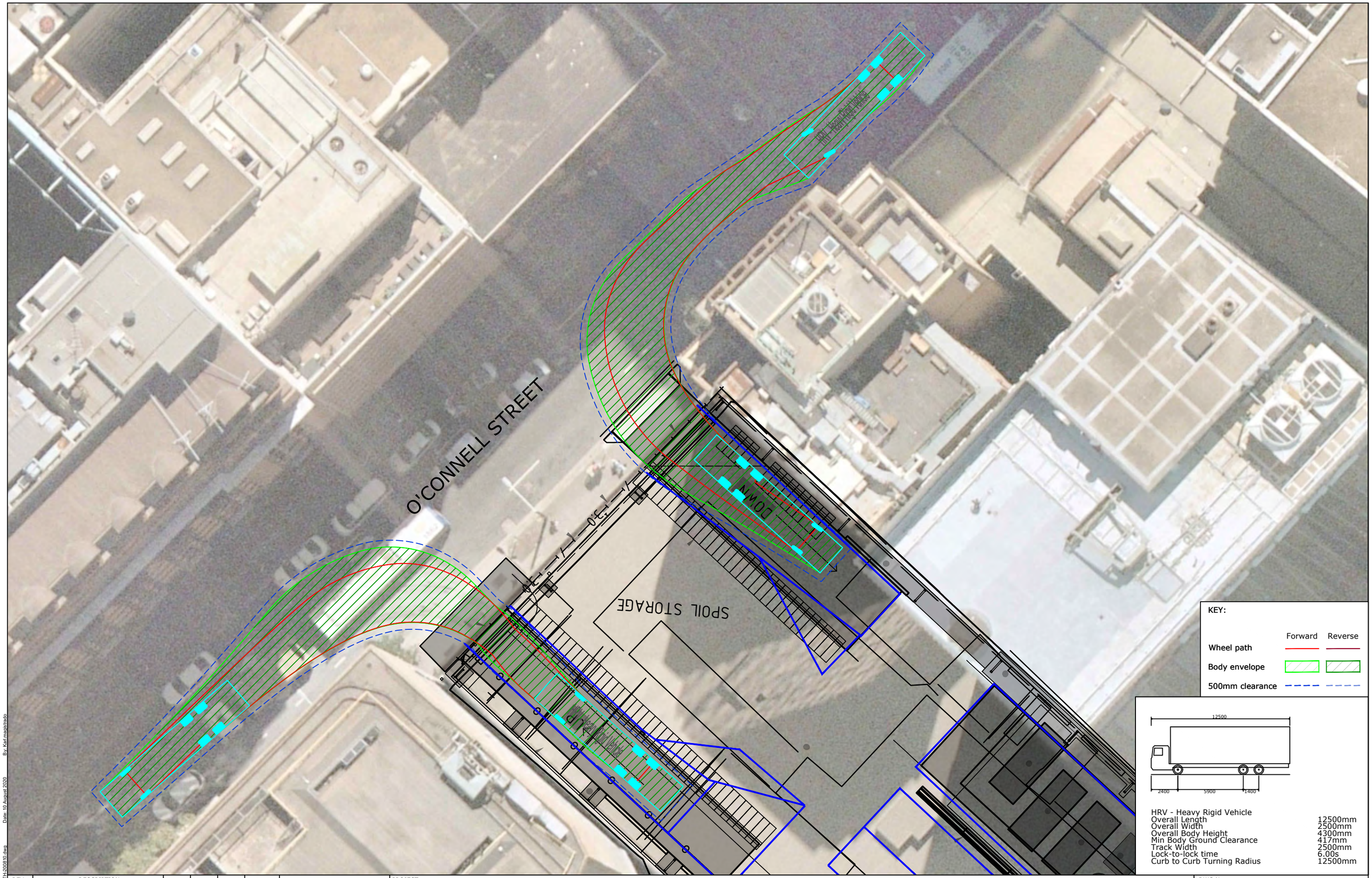
TITLE

SWEPT PATH ANALYSIS - ELIZABETH STREET
AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No. 18228CAD053
FIGURE 2

DATE STAMP 18 SEPTEMBER 2020

PROJECT No. 18228 | SCALE 1:250 @A3 | REV. A



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
500mm clearance		

HRV - Heavy Rigid Vehicle

Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

PROJECT: MARTIN PLACE METRO STATION

TITLE: SWEPT PATH ANALYSIS - O'CONNELL STREET
AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No. 18228CAD045
FIGURE 3

DATE STAMP 10 AUGUST 2020

PROJECT No.	SCALE	REV.
18228	1:250 @A3	A

Filename: 18228CAD045-SWEPT PATH-200810.dwg Date: 10 August 2020 By: Karl.magistrado

VEHICLE ENTERING

O'CONNELL STREET

SPOIL STORAGE

DOWN

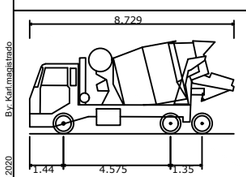
UP

6cum Truckmixer

6cum Truckmixer

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



6 cu.m. Truckmixer	
Overall Length	8729mm
Overall Width	2550mm
Overall Body Height	3965mm
Min Body Ground Clearance	296mm
Track Width	2550mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10450mm

VEHICLE ENTERING

O'CONNELL STREET

SPOIL STORAGE

DOWN

UP

6cum Truckmixer

6cum Truckmixer

By: Kiel.magistrado

Date: 10 August 2020

Filename: 18228CAD045-SWEPT PATH+200810.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

PROJECT

MARTIN PLACE METRO STATION

TITLE

SWEPT PATH ANALYSIS
8.729m TRUCKMIXER

DWG No. 18228CAD045
FIGURE 4

DATE STAMP 10 AUGUST 2020

PROJECT No.	SCALE	REV.
18228	1:250 @A3	A

VEHICLE ENTERING

O'CONNELL STREET

SPOIL STORAGE

DOWN

UP

6 cum Truckmixer

6 cum Truckmixer

6 cum Truckmixer

VEHICLE ENTERING

O'CONNELL STREET

SPOIL STORAGE

DOWN

UP

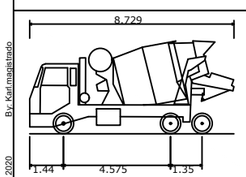
6 cum Truckmixer

6 cum Truckmixer

6 cum Truckmixer

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



6 cu.m. Truckmixer	
Overall Length	8729mm
Overall Width	2550mm
Overall Body Height	3965mm
Min Body Ground Clearance	296mm
Track Width	2550mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10450mm

By: Kiel.magistrado

Date: 10 August 2020

Filename: 18228CAD045-SWEPT PATH-200810.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

PROJECT

MARTIN PLACE METRO STATION

TITLE

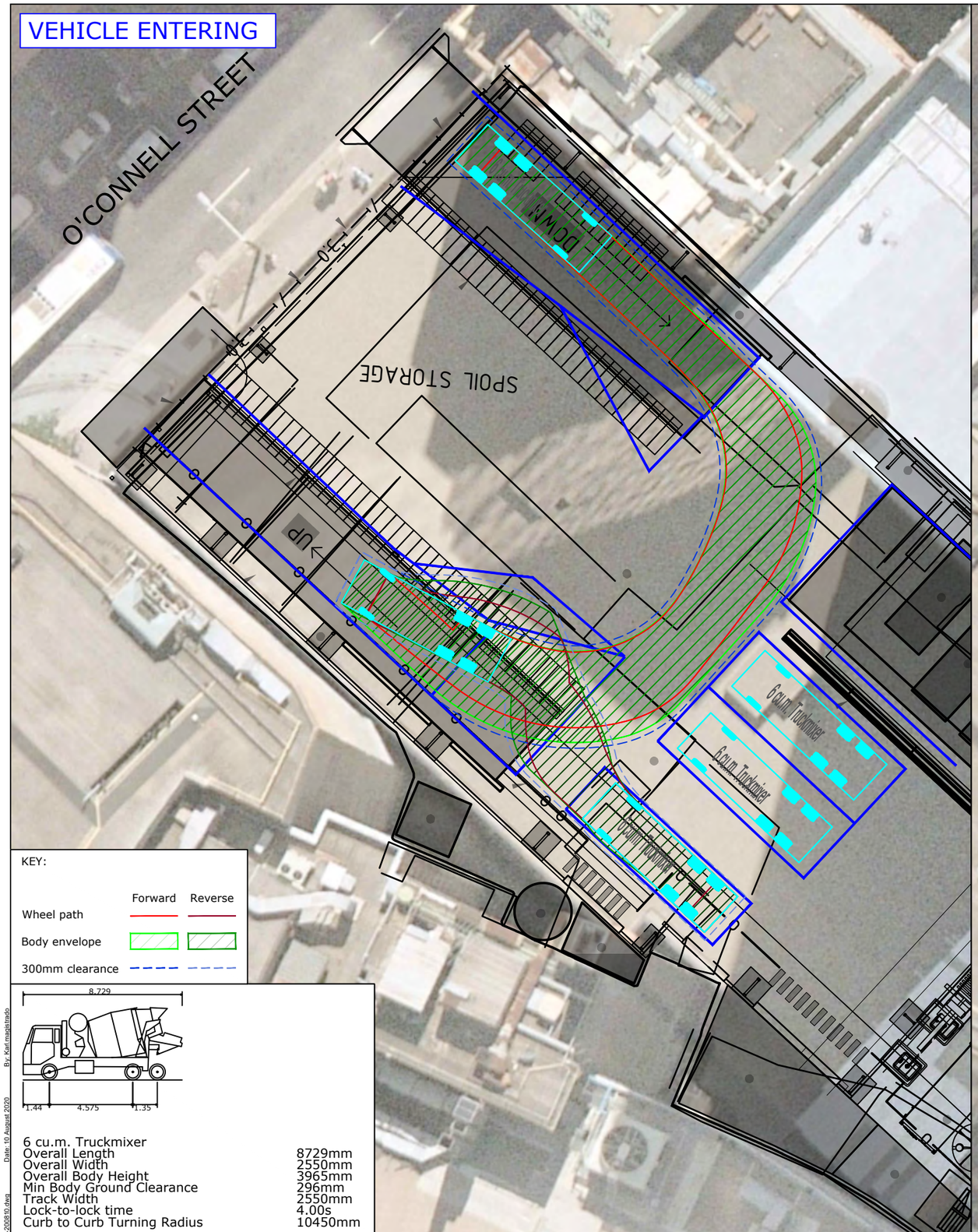
SWEPT PATH ANALYSIS
8.729m TRUCKMIXER

DWG No. 18228CAD045
FIGURE 5

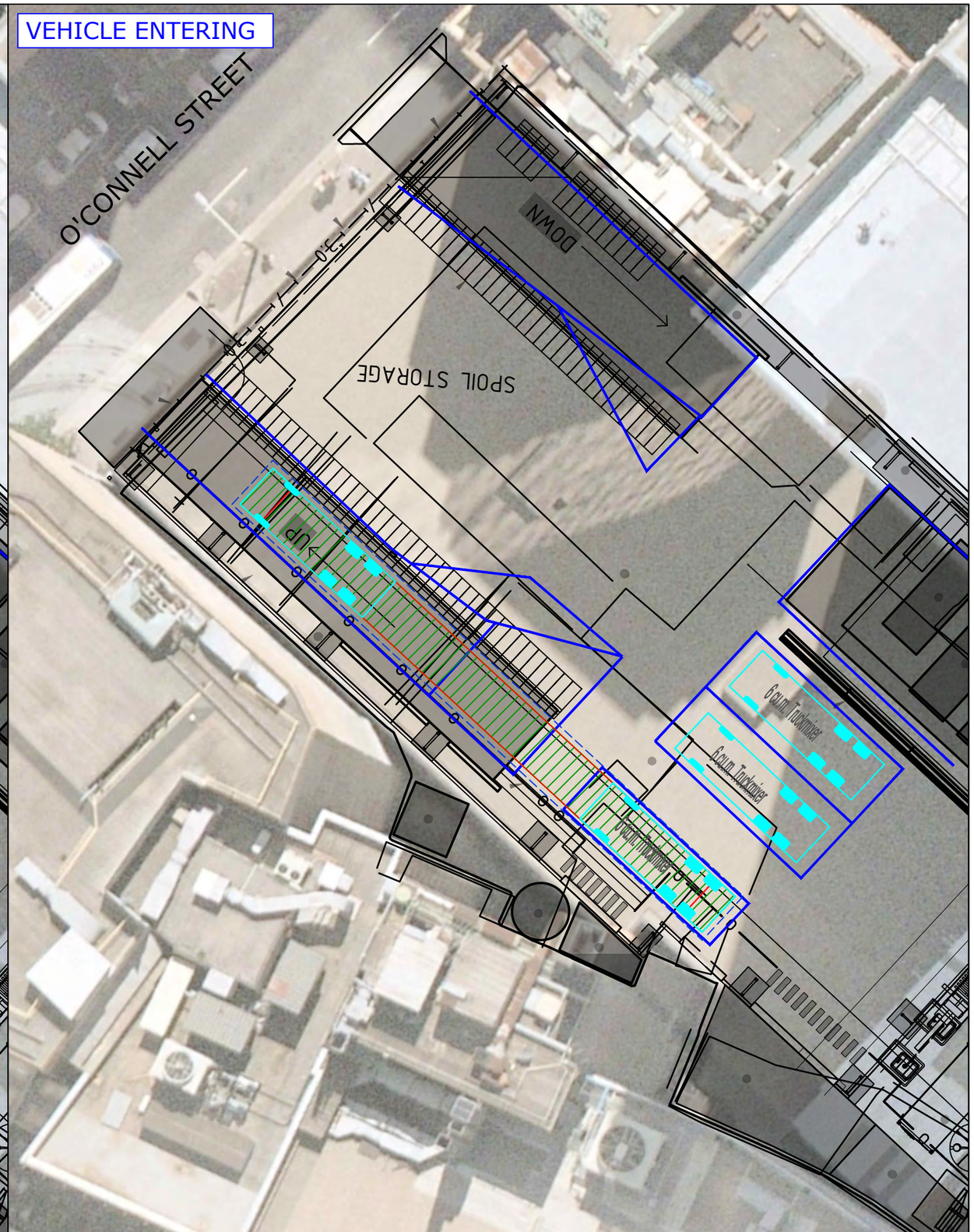
DATE STAMP 10 AUGUST 2020

PROJECT No. 18228 | SCALE 1:250 @A3 | REV. A

VEHICLE ENTERING



VEHICLE ENTERING



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		

6 cu.m. Truckmixer	
Overall Length	8729mm
Overall Width	2550mm
Overall Body Height	3965mm
Min Body Ground Clearance	296mm
Track Width	2550mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10450mm

By: Kiel.magistrado
Date: 10 August 2020
Filename: 18228CAD045-SWEPT PATH-200810.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

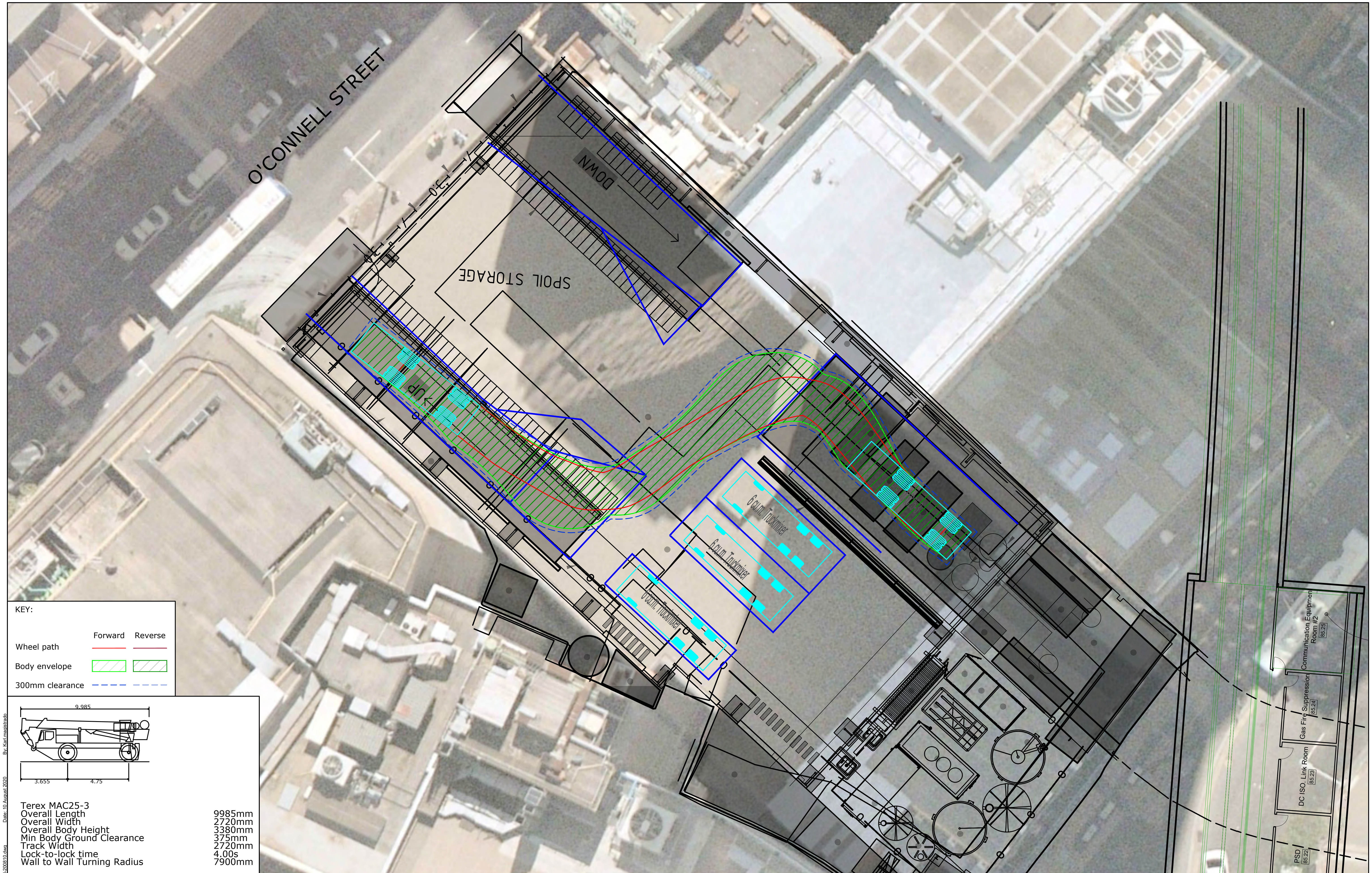
PROJECT: MARTIN PLACE METRO STATION

TITLE: SWEPT PATH ANALYSIS
8.729m TRUCKMIXER

DWG No. 18228CAD045
FIGURE 6

DATE STAMP 10 AUGUST 2020

PROJECT No.	SCALE	REV.
18228	1:250 @A3	A



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		

Terex MAC25-3	
Overall Length	9985mm
Overall Width	2720mm
Overall Body Height	3380mm
Min Body Ground Clearance	375mm
Track Width	2720mm
Lock-to-lock time	4.00s
Wall to Wall Turning Radius	7900mm

By: Karl.magistrado
Date: 10 August 2020
Filename: 18228CAD045-SWEPT PATH-200810.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

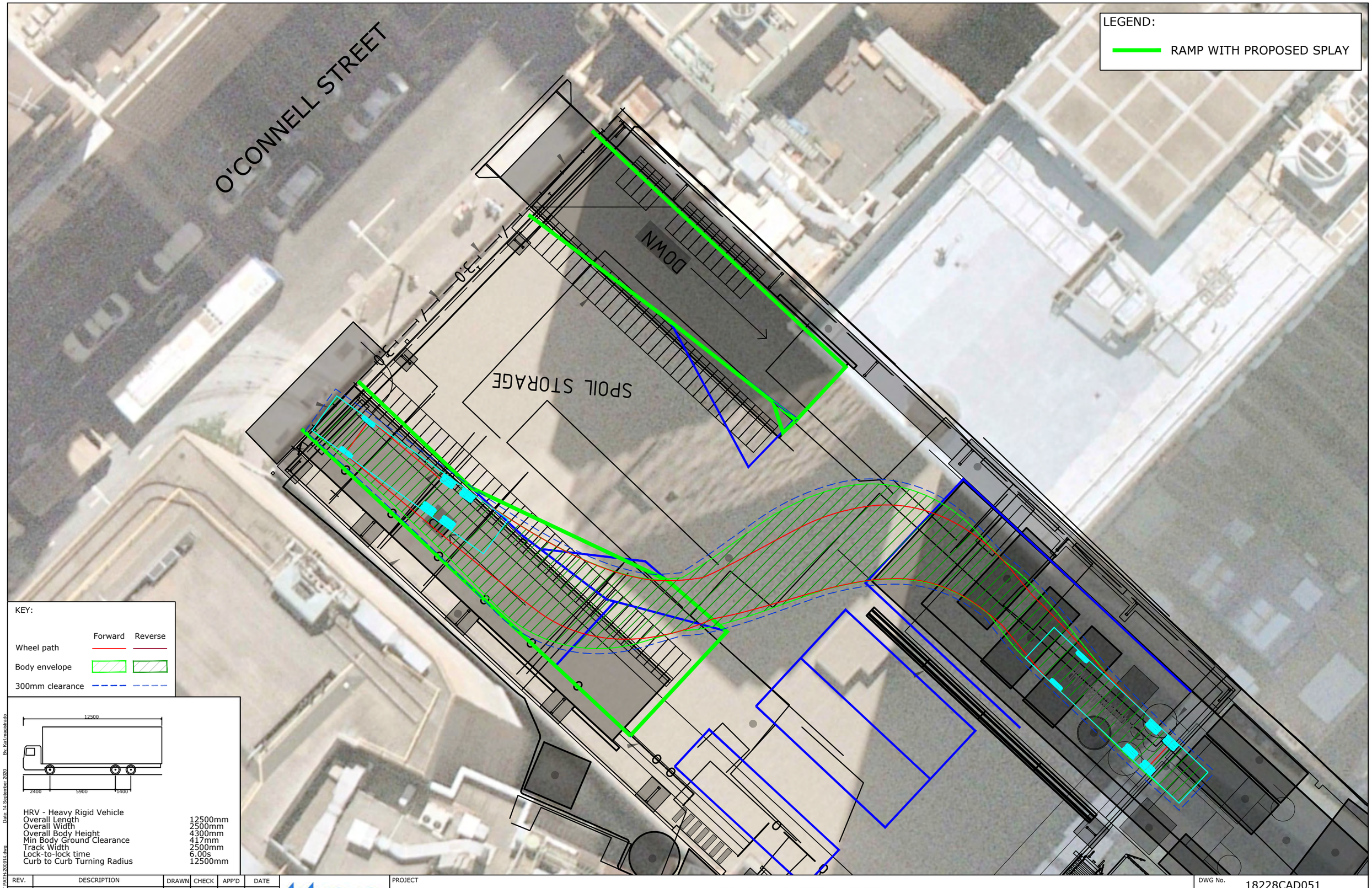
PROJECT
MARTIN PLACE METRO STATION

TITLE
SWEPT PATH ANALYSIS
9.985m TEREX MAC25-3

DWG No. 18228CAD045
FIGURE 7

DATE STAMP 10 AUGUST 2020

PROJECT No.	SCALE	REV.
18228	1:250 @A3	A



REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	14/09/20

ttpp transport planning

PROJECT

MARTIN PLACE METRO STATION

TITLE

SWEPT PATH ANALYSIS
AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No. 18228CAD051 FIGURE 8

DATE STAMP 14 SEPTEMBER 2020

PROJECT No. 18228 | SCALE 1:200 @A3 | REV. A

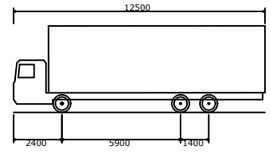
Filename: 18228CAD051-SWEPT PATH-200914.dwg
Date: 14 September 2020
By: Karl.magistrado

VEHICLE ENTERING

VEHICLE EXITING

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



HRV - Heavy Rigid Vehicle

Overall Length	12500mm
Overall Width	2500mm
Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

PROJECT: MARTIN PLACE METRO STATION

TITLE: SWEPT PATH ANALYSIS
AS2890.2 12.5m HEAVY RIGID VEHICLE

DWG No. 18228CAD045
FIGURE 9

DATE STAMP 10 AUGUST 2020

PROJECT No.	SCALE	REV.
18228	1:250 @A3	A

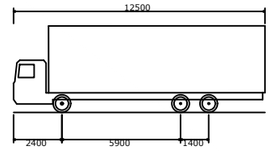
Filename: 18228CAD045-SWEPT PATH-200810.dwg
Date: 10 August 2020
By: Karl magistrado

VEHICLE ENTERING

VEHICLE EXITING

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



HRV - Heavy Rigid Vehicle

Overall Length	12500mm
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Overall Body Height	4300mm
Min Body Ground Clearance	417mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	10/08/20

ttpp transport planning

PROJECT: MARTIN PLACE METRO STATION

TITLE: SWEPT PATH ANALYSIS
AS2890.2 12.5m HEAVY RIGID VEHICLE

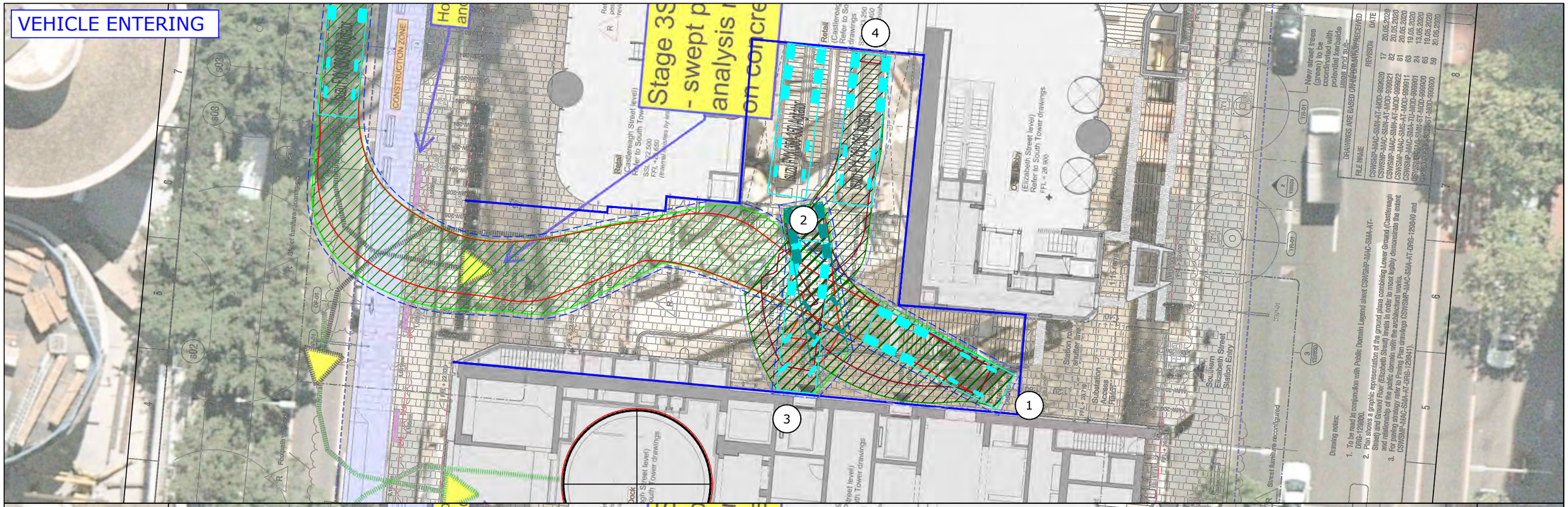
DWG No. 18228CAD045
FIGURE 10

DATE STAMP: 10 AUGUST 2020

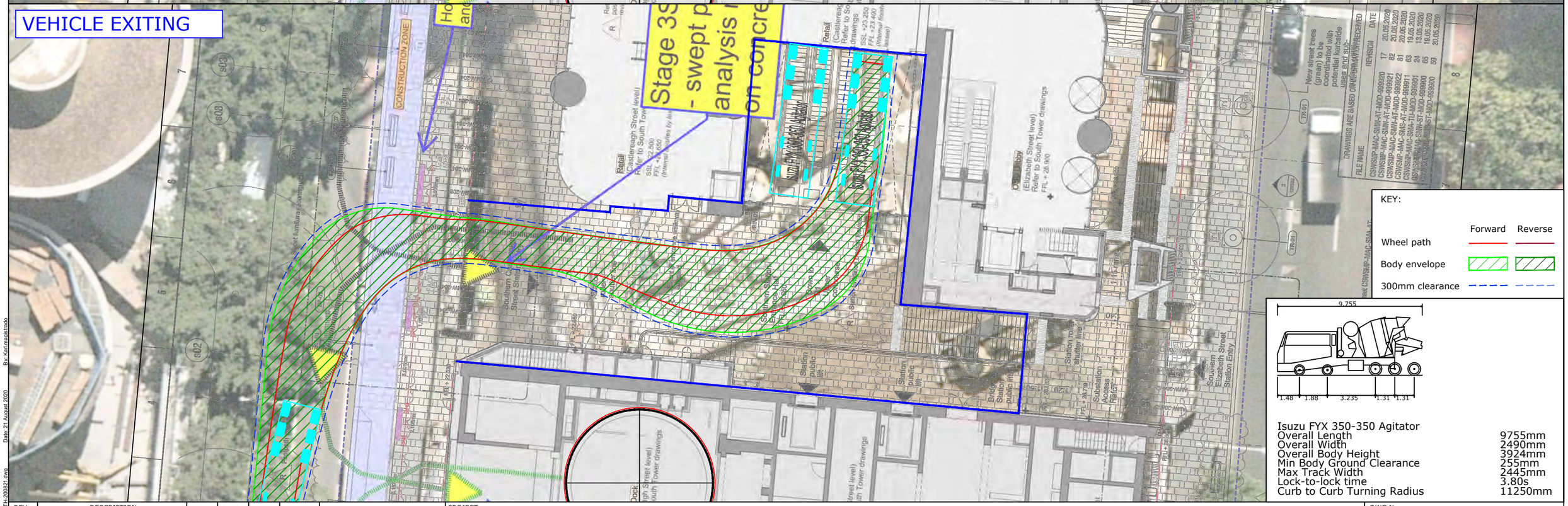
PROJECT No. 18228 | SCALE 1:250 @A3 | REV. A

Filename: 18228CAD045-SWEPT PATH-200810.dwg
Date: 10 August 2020
By: Karl magistrado

VEHICLE ENTERING



VEHICLE EXITING



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		

Isuzu FYX 350-350 Agitator	
Overall Length	9755mm
Overall Width	2490mm
Overall Body Height	3924mm
Min Body Ground Clearance	255mm
Max Track Width	2445mm
Lock-to-lock time	3.80s
Curb to Curb Turning Radius	11250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	21/08/20

ttpp transport planning

PROJECT: MARTIN PLACE METRO STATION

TITLE: SWEPT PATH ANALYSIS
9.755m ISUZU FYX 350-350 AGITATOR

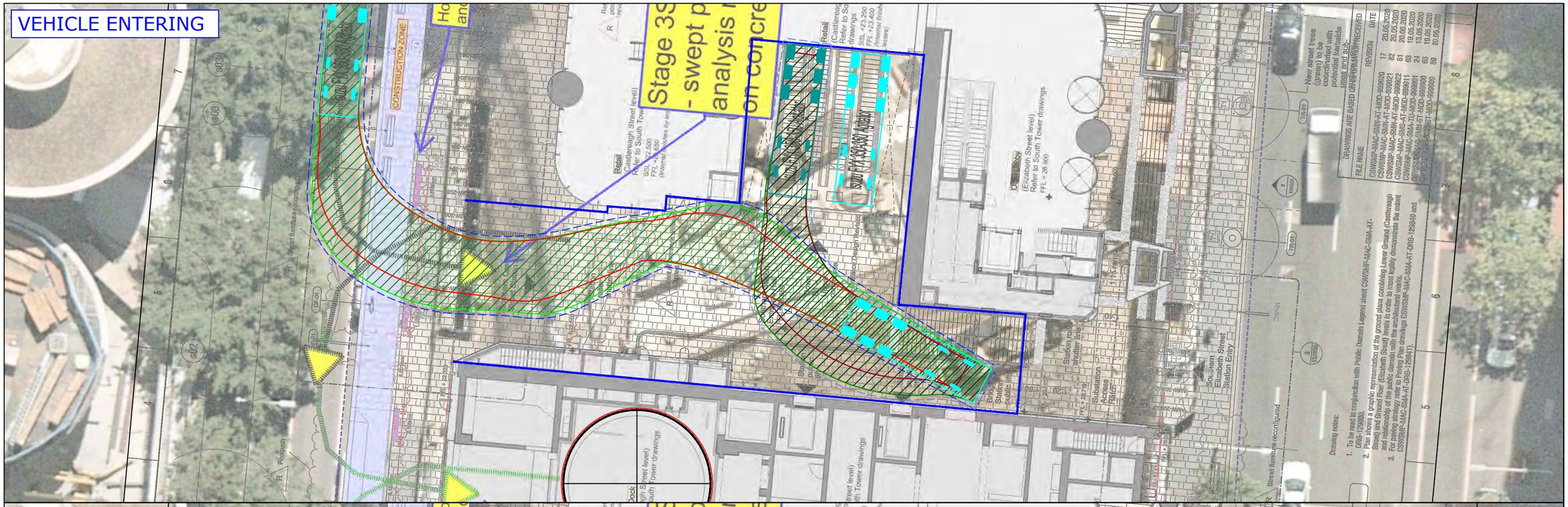
DWG No. 18228CAD050
FIGURE 11

DATE STAMP 21 AUGUST 2020

PROJECT No. 18228 | SCALE 1:250 @ A3 | REV. A

Filename: 18228CAD050-SWEPT PATH-200821.dwg Date: 21 August 2020 By: Karl.mastelnado

VEHICLE ENTERING



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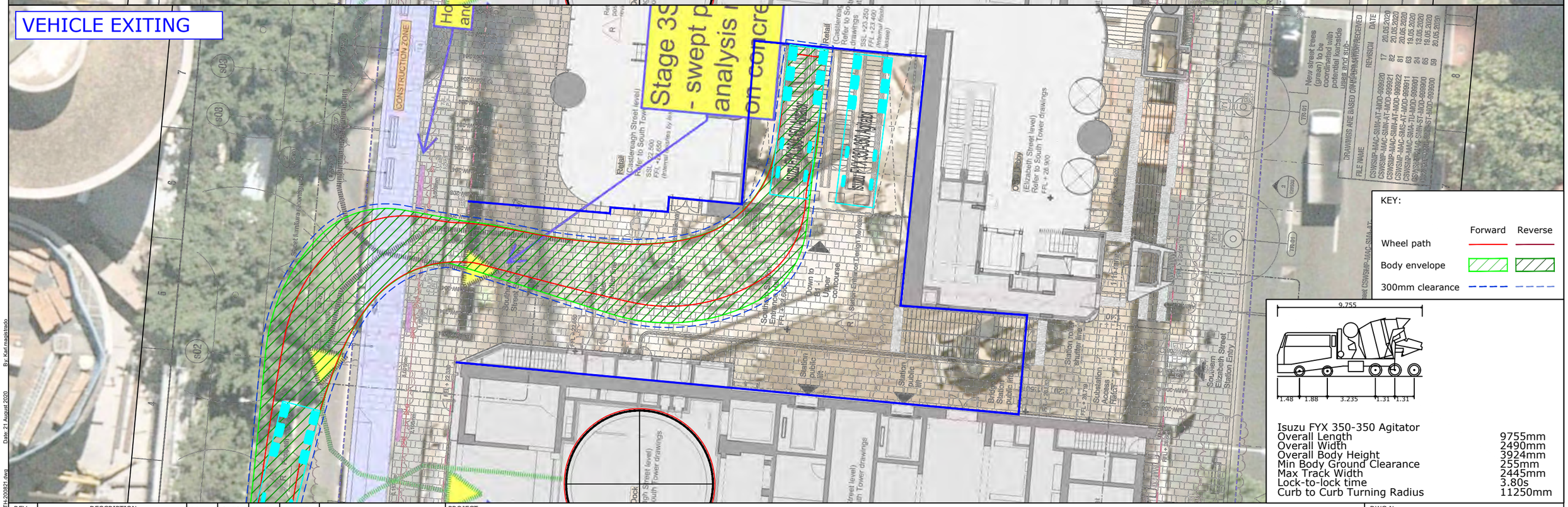

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
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REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	21/08/20

ttpp transport planning

PROJECT: MARTIN PLACE METRO STATION

TITLE: SWEPT PATH ANALYSIS
9.755m ISUZU FYX 350-350 AGITATOR

DWG No. 18228CAD050
FIGURE 12

DATE STAMP: 21 AUGUST 2020

PROJECT No. 18228 | SCALE 1:250 @ A3 | REV. A

Filename: 18228CAD050-SWEPT PATH-200821.dwg By: Karl.mastelnado Date: 21 August 2020

Appendix D

Crane Installation Details

CITY OF SYDNEY

City of Sydney
Town Hall House
456 Kent Street
Sydney NSW 2000

+61 2 9265 9333
council@cityofsydney.nsw.gov.au
GPO Box 1591 Sydney NSW 2001
cityofsydney.nsw.gov.au

5 August 2020

TRIM Ref: 2020/303725

Miss Dayna Adams
Adams Traffic Management Services Pty Ltd
Unit 12,
7 Hoyle Avenuye
Castle Hill NSW 2154
dayna@atmservices.net.au

Dear Dayna,

Temporary Full Road Closure

I refer to your Temporary Full Road Closure Application of Castlereagh Street, Sydney, between Hunter and King Streets, from midnight Saturday 21 November 2020 to midnight on Sunday 22 November 2020.

Following advice from the Local Pedestrian, Cycling and Traffic Calming Committee, the City agrees to the temporary full road closure subject to the conditions set out in the attached Schedule.

The fee for the above temporary full road closure are $7,640.00.

The above fee does not include approvals for cranes, road openings or barricades. You will need to contact the City's Construction Regulation Unit at cru@cityofsydney.nsw.gov.au to obtain separate approval for these activities.

Payment for the above fee can be made by credit card by contacting the City on 9265 9333, in person at one of the City's Customer Service Centres (https://bit.ly/2uBnmoT) or by post to City of Sydney, GPO Box 1591, Sydney NSW 2001. Payment made by cheque should be made payable to "City of Sydney" and marked "Not Negotiable".

If you require any further information please contact me on 9265 9333 or email ccalabro@cityofsydney.nsw.gov.au.

Yours sincerely

Claudia Calabro
Traffic Works Co-ordinator

cc Construction Regulation Unit

REMITTANCE ADVICE FORM

Calculation for Full Road Closure

Castlereagh Street, Sydney, between Hunter and King Streets, from midnight Saturday 21 November 2020 to midnight on Sunday 22 November 2020.

Charge per lane per street block

Per lane per day per block on a major road $1,877
Per lane per day per block on a minor road $938

(Includes traffic lanes, parking lanes, bus lanes and separated bicycle lanes)

Percentage per hours

25% for less than 4 hours
50% for 4 to less than 8 hours
75% for 8 to less than 12 hours
100% for 12 to less than 24 hours

Hours	No of Lanes	Cost per lane	Number of days	%	Total
24.00	4	1910	1	100%	$7,640.00

Combined Total	$7,640.00

(Office Use: RC113)

Prepared by: Claudia Calabro, Traffic Works Coordinator
Checked by: Van Le, Traffic Manager – North

Comments

The above rates have been calculated on the City's schedule of Fees and Charges adopted for the 2019/20 Financial Year.

All fees are payable on the issuing of permits by the City's Construction Regulation Unit. Permits may be collected from any of the City's Offices listed on the application forms.

SCHEDULE OF CONDITIONS OF APPROVAL

(A) The Applicant must comply with the temporary road closure conditions as mentioned in Schedule B of this agenda.

(B) The Applicant must comply with any other conditions imposed by City's Construction Regulation Unit.

(C) The Applicant has indicated the 29 November 2020 as a contingency date.

(D) The Applicant must contact the Sydney City PAC to discuss deployment of user pay police for the road closure.

(E) The Applicant is to obtain a Road Occupancy Licence from the Transport Management Centre prior to commencement of works.

(F) The Applicant must provide a telephone number of the supervisor responsible for the proposed closure and include contact details in the notification letters to be distributed to affected stakeholders.

(G) The Applicant must contact Sydney Buses and arrange and pay for the rerouting of bus services around the closure, the temporary relocation of bus stops and any additional staff required.

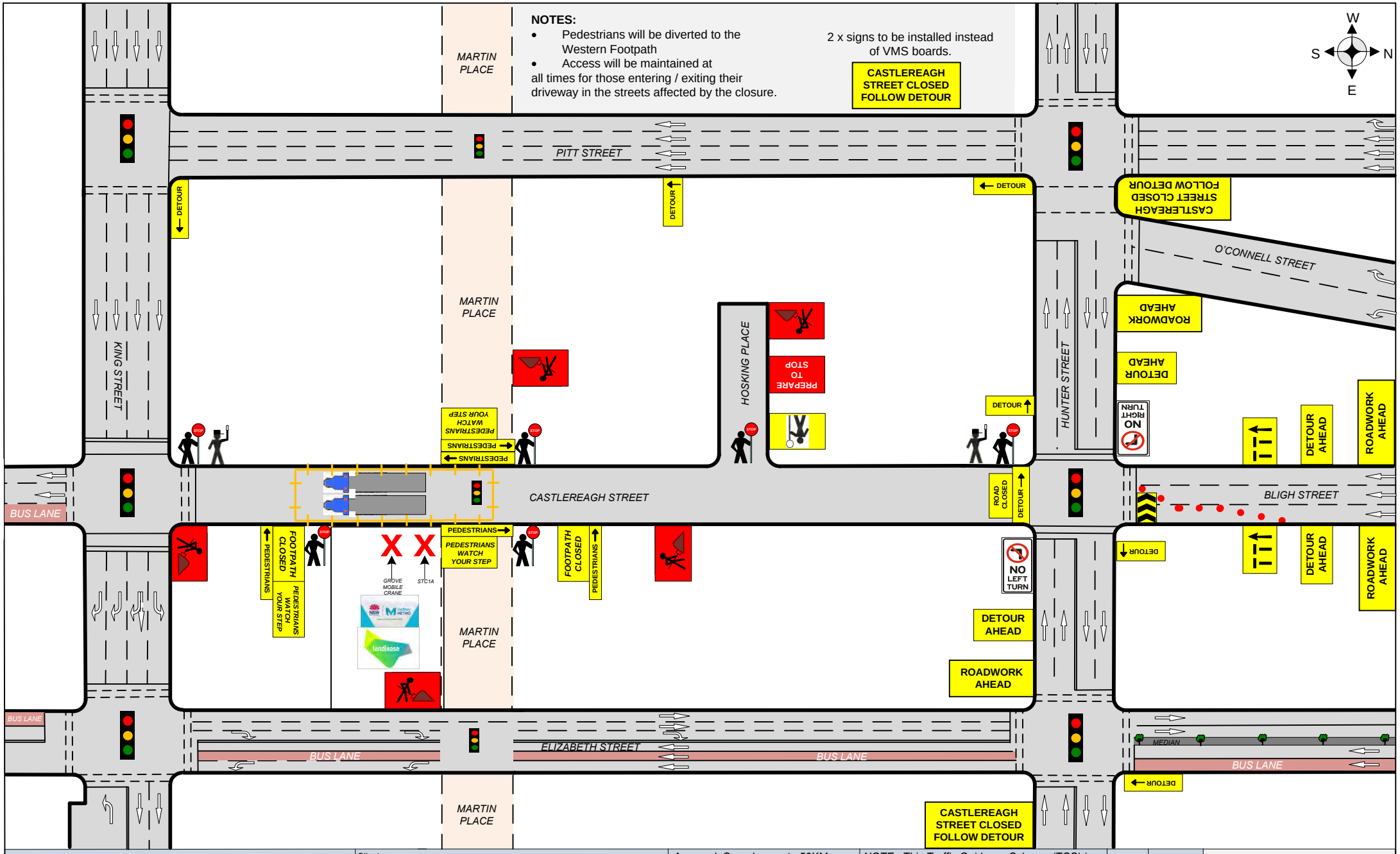
SCHEDULE B
Temporary Road Closure Conditions

The Applicant and their representatives:

1. Must carry out letterbox drops to affected tenants, occupants, building managements and emergency services at least 14 days prior to the commencement of the road closure and include contact details for the supervisor. The Applicant must resolve, to the satisfaction of the City, any issues that may arise and all representations made by affected tenants and occupants.
2. The Applicant must provide local access, where practical, for nearby affected properties.
3. Roads must be closed in accordance with AS1742.3 and the approved Traffic Management Plan, unless otherwise directed by Police or authorised City officers.
4. Before the road closure is implemented the Applicant **MUST** contact the City's Construction Regulations Unit on 9265 9333 to obtain the relevant permits.
5. Must not occupy the carriageway or footway of the road until the road closure has been implemented.
6. Must at all times provide a 4-metre wide emergency lane along the closed road. If the emergency lane cannot be provided, then the Applicant must discuss it with Emergency Services (namely Police, Fire Brigade and NSW Ambulance) and provide an alternative emergency access arrangement to their satisfaction. All services (fire hydrants etc) must be kept free of any obstructions.
7. Must provide and maintain appropriate and adequate traffic measures (including detour signs and flagmen) for the safe movement of traffic and pedestrians.
8. Must remove all barriers and signs associated with the road closure at the times

nominated to reopen the road to traffic.

9. Must indemnify the City against all claims for damage or injury that may result from the activity or occupation of part of the road or footpath during the activity. The applicant must provide documentary evidence of public liability insurance indemnifying Council for a minimum of $20,000,000
10. Must reimburse the City for the cost of repair to any damage caused to the road or footpath as a result of the Applicant carrying out their activities
11. Must comply with any reasonable directive of the City Rangers, Police or Roads and Maritime Services.
12. Must comply with the City's Code of Practice for Construction Hours and Noise within the City Centre.
13. Must place an advertisement in a Sydney metropolitan newspaper at least 7 days before the road closure.
14. Must meet all costs associated with the closure and shall pay all fees in accordance with the Council's current Fees and Charges.
15. The Applicant is to obtain a Road Occupancy Licence from the Transport Management Centre prior to commencement of works.
16. The Applicant must contact the Sydney Coordination Office to discuss the event and its impacts on works associated with the CBD and South East Light Rail (CSELR) project or other major works in the CBD
17. Must ensure a suitable Occupational Health & Safety Plan is in place for all personnel working at the site.
18. Any variation on the approved date and conditions will require the Applicant to submit a Deferred Date Application for consideration
19. Note that in the event of a traffic incident or emergency, the Police will take control of all traffic and pedestrian arrangements.
20. Must advise car share operators of the approved closure 14 days before the road is closed if a car share parking bay is located in the street.
21. Failure to comply with these Conditions may result in the approval being revoked and not reinstated.



ATM
ADAMS TRAFFIC MANAGEMENT SERVICES
12/7 Hoyle Ave, Castle Hill NSW 2154
Email: david@adamstraffic.com.au
Email: kerrye@adamstraffic.com.au
David 0415 475 742 | Fax: 9899 3304
Kerrye 0415 925 861 | 0402 420 164
Ph.: 1800 330 378
Website: adamstraffic.com.au

Client: Marr Contracting

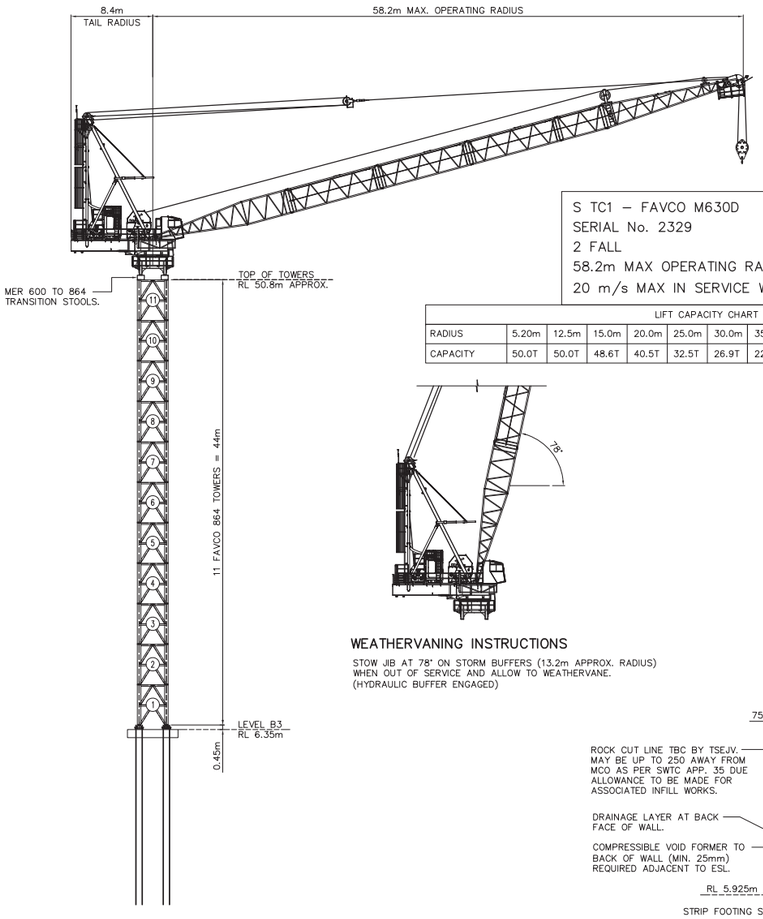
Location: 5010 Castlereagh Street, Sydney NSW 2000

Approach Speeds = up to 50KM
Day/Night - Class 1 Signs to be used
All Personel to wear Hi Vis Clothing,
Cone Spacing 5M in Taper
Cone Spacing 10M in Delineation
Vehicles to park within the worksite
RMS certified Traffic Controllers to be employed

NOTE: This Traffic Guidance Scheme (TGS) is drawn to AS 1742.3 and the RMS worksite manual for traffic control at work sites and is to be implemented as such. This TGS can be altered on site, & must be dated & signed by an RMS accredited person, who then becomes responsible for the implementation of the changed TGS.

NOTE: Distances between signs to be equal to posted speed limit in metres

Drawn by:	David Adams	**NOT TO SCALE**
RMS No:	0047594617	**UBD Ref** F, H8
Exp Date:	16/10/2020	
Signed by:	D.N.	**TGS No:** 8742-2
Date:	22/4/20	



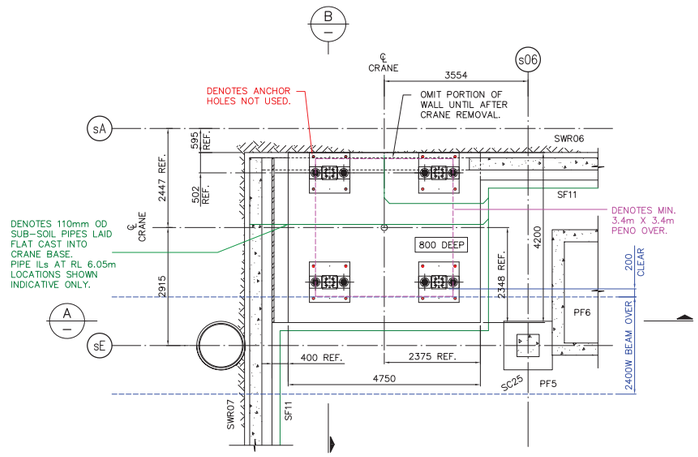
S TC1 – FAVCO M630D
SERIAL No. 2329
2 FALL
58.2m MAX OPERATING RADIUS
20 m/s MAX IN SERVICE WIND SPEED

LIFT CAPACITY CHART												
RADIUS	5.20m	12.5m	15.0m	20.0m	25.0m	30.0m	35.0m	40.0m	45.0m	50.0m	55.0m	58.2m
CAPACITY	50.0T	50.0T	48.6T	40.5T	32.5T	26.9T	22.7T	19.3T	16.4T	13.8T	11.1T	9.00T

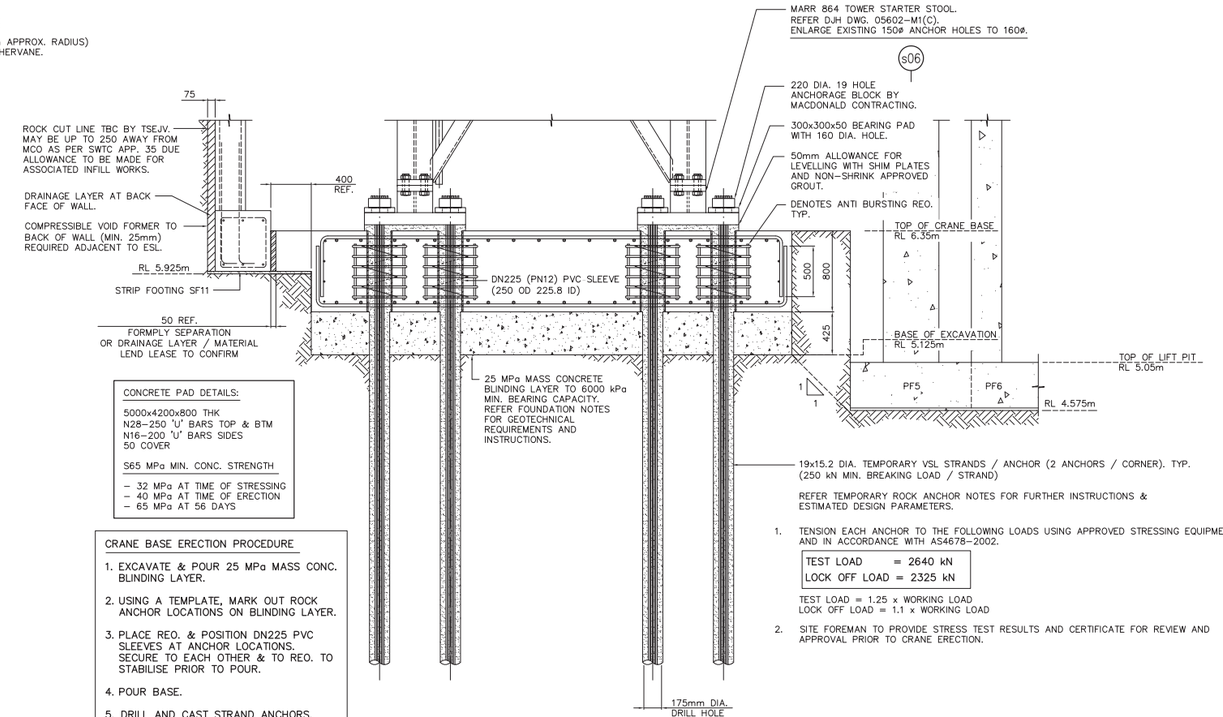
WEATHERVANING INSTRUCTIONS

STOW JIB AT 78° ON STORM BUFFERS (13.2m APPROX. RADIUS)
WHEN OUT OF SERVICE AND ALLOW TO WEATHERVANE.
(HYDRAULIC BUFFER ENGAGED)

S TC1 CRANE STAGE 1 ELEVATION
SCALE 1:200



S TC1 CRANE BASE LOCATION PLAN
SCALE 1:50



CONCRETE PAD DETAILS:

5000x4200x800 THK
N28–250 'U' BARS TOP & BTM
N16–200 'U' BARS SIDES
50 COVER

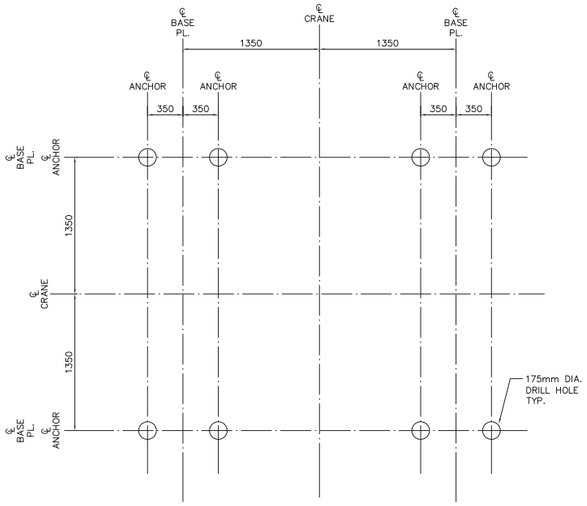
S65 MPa MIN. CONC. STRENGTH

– 32 MPa AT TIME OF STRESSING
– 40 MPa AT TIME OF ERECTION
– 65 MPa AT 56 DAYS

CRANE BASE ERECTION PROCEDURE

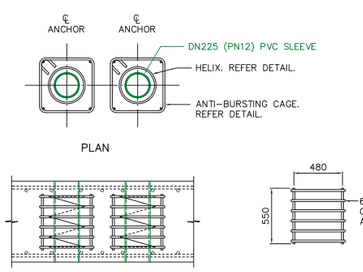
1. EXCAVATE & POUR 25 MPa MASS CONC. BLINDING LAYER.
2. USING A TEMPLATE, MARK OUT ROCK ANCHOR LOCATIONS ON BLINDING LAYER.
3. PLACE REO. & POSITION DN225 PVC SLEEVES AT ANCHOR LOCATIONS. SECURE TO EACH OTHER & TO REO. TO STABILISE PRIOR TO POUR.
4. POUR BASE.
5. DRILL AND CAST STRAND ANCHORS.
6. PLACE TOWER, LEVEL AND GROUT.
7. STRESS ANCHORS, TEST AND LOCK OFF.

SECTION A
SCALE 1:20

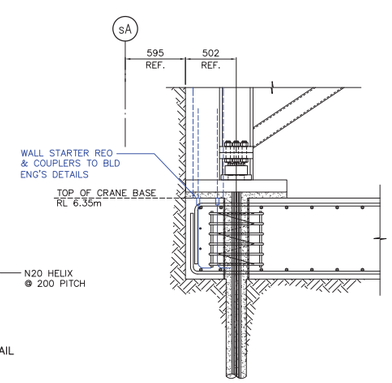


GROUND ANCHOR SETOUT PLAN
SCALE 1:20

IMPORTANT!!!
+ STRONGLY RECOMMENDED TO USE FAVCO TOWER AS TEMPLATE FOR GROUND ANCHOR SETOUT IN PREFERENCE TO SURVEYED SETOUT.
+ SETOUT BASED ON STD. BASE PLATE BUT MAY DIFFER TO PLATE USED. SITE FOREMAN TO CONFIRM PRIOR TO DRILLING HOLES IF SETOUT BY SURVEY IS REQUIRED.



ANTI-BURSTING REO. PLAN
SCALE 1:20



SECTION B
SCALE 1:20

GENERAL NOTES

1. TOWER CRANE FOUNDATION BASED ON THE FOLLOWING:
   (a) FAVELLE M630D TOWER CRANE WITH 59.6m BOOM (58.2m MAX. 2F RADIUS).
   (b) CRANE FREESTANDING AS DETAILED.
   (c) MAX ALLOWABLE OPERATION WIND SPEED OF 20 m/s.
   (d) NO SIGNAGE ON TOWER.
   (e) WITH OR WITHOUT CLIMBING FRAME.
   (f) WIND LOADS CALCULATED IN ACCORDANCE WITH AS 1170.2 & AS 1418.4 USING THE FOLLOWING PARAMETERS:
      – TERRAIN CATEGORY = 3.0
      – REGION A2
      – AVERAGE RECURRENCE INTERVAL (R) = 100
      – REGIONAL OUT OF SERVICE WIND SPEED = 41 m/s
2. REFER FOUNDATION NOTES FOR REQUIRED GEOTECHNICAL PARAMETERS.
3. CRANE SUPPLIER TO ENSURE ALL COMPONENTS ARE IN A SAFE AND STRUCTURALLY SOUND CONDITION IN ACCORDANCE WITH MANUFACTURER AND S.A.A. REQUIREMENTS.
4. CRANE TO BE ERECTED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
5. IT IS RECOMMENDED FOR CRANE TO BE INSPECTED AND TESTED IN ACCORDANCE WITH AS 2550.4 AND LOCAL AUTHORITY PROCEDURES.
6. BUILDER TO GAIN APPROVAL FOR THE FOLLOWING CONDITIONS PRIOR TO ERECTION:
   (a) WHERE CRANE BASE EXCAVATION ADJOINS SITE SHORING BUILDING ENGINEER TO CONFIRM ADEQUACY OF SHORING.
   (b) WHERE CRANE BASE IS ENCORPORATED INTO BUILDING STRUCTURE, BUILDING ENGINEER TO CONFIRM ADEQUACY OF STRUCTURE TO SUSTAIN IMPOSED TOWER CRANE LOADS.
   (c) WHERE CRANE BASE IS LOCATED ADJACENT TO AN EXCAVATION, GEOTECHNICAL ENGINEER TO CONFIRM OVERALL STABILITY OF CRANE FOUNDATION.

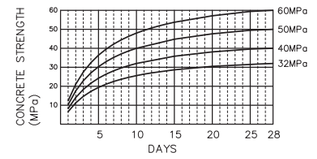
CONCRETE NOTES

1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH AS 5100.
2. NO HOLES, CHASES OR EMBEDMENTS OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE ELEMENTS WITHOUT ENGINEERS APPROVAL.
3. REINFORCEMENT IS SHOWN DIAGRAMATICALLY ONLY. SPLICES TO REINFORCEMENT TO BE AS PER THE FOLLOWING TABLE U.N.O:

LAP LENGTHS				
	32 MPa	40 MPa	50 MPa	65+MPa
N12	550	500	450	400
N16	800	700	650	550
N20	1000	900	800	700
N24	1250	1100	1000	900
N28	1500	1350	1200	1050
N32	1800	1600	1450	1250
N36	2100	1850	1650	1450

– INCREASE LENGTH BY 30% FOR BARS WITH MORE THAN 300mm OF CONC. CAST BELOW THE BAR.
– INCREASE LENGTH BY 50% FOR EPOXY COATED BARS.

4. CONCRETE TO HAVE A MAXIMUM NOMINAL AGGREGATE SIZE OF 20mm AND A SLUMP OF 80mm.
5. CONCRETE STRENGTH AND COVER TO BE AS NOTED ON THE DRAWINGS.
6. ALL CONCRETE TO BE VIBRATED AND CURED IN ACCORDANCE WITH AS3600.
7. CONCRETE TO BE SAMPLED AND TESTED IN ACCORDANCE WITH AS 1012.
8. PROVIDE AN APPROVED VAPOUR BARRIER FOR SLABS, BEAMS AND THICKENING CAST AGAINST THE GROUND.
9. MAINTAIN COVER DURING POURING USING APPROVED BAR CHAIRS. BAR CHAIRS SHALL BE AT 800 x 800mm MAXIMUM CENTRES.
10. MATERIAL PROPERTIES OF REINFORCEMENT IS INDICATED BY THE FOLLOWING SYMBOLS:
    N – DEFORMED BAR OF GRADE 500 (fsy = 500 MPa) DUCTILITY CLASS 'N' TO AS/NZS4671
    Y – DEFORMED BAR OF GRADE 400 (fsy = 400 MPa) TO AS1302
    R – ROUND BAR GRADE 250 (fsy = 250 MPa) TO AS1302



CONCRETE STRENGTH Vs AGE – TYPE A PORTLAND CEMENT

1. CONCRETE TO BE SAMPLED AND TESTED IN ACCORDANCE WITH AS1012.2.
2. CHART TO BE USED AS A GUIDE ONLY AND SHOULD BE CONFIRMED WITH SUPPLIER.
3. BUILDER TO OBTAIN WRITTEN CONFIRMATION OF CONCRETE STRENGTH FROM SUPPLIER.

FOUNDATION NOTES

1. CRANE BASE TO BE FOUNDED ON UNDISTURBED GROUND HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 6000 kPa. (GEOTECH TO VERIFY THIS SHOULD BE ACHIEVABLE PRIOR TO EXCAVATION).
2. AFTER EXCAVATION, BUILDER TO ARRANGE WITH GEOTECHNICAL ENGINEER TO INSPECT EXCAVATION TO CONFIRM BEARING CAPACITY.
3. WHERE SERVICE TRENCHES ARE REQUIRED TO BE EXCAVATED BELOW CRANE BASE, SIDE OF TRENCH SHALL BE LOCATED AWAY FROM SIDE OF CRANE BASE BY THE SAME DISTANCE THAT THE TRENCH IS BELOW CRANE BASE.
4. WHERE THERE ARE ADJACENT BUILDING FOOTINGS, BUILDER TO FOLLOW THE FOLLOWING CRITERIA:
   (a) FOR ADJACENT BUILDING FOOTINGS FOUNDING AT A HIGHER LEVEL TO CRANE BASE:
      – 45° INFLUENCE LINE FROM EDGE OF BUILDING FOOTING MUST PASS BELOW FOUNDING LEVEL OF CRANE BASE. PROVIDE 25 MPa MASS CONCRETE BLINDING LAYER TO SUITABLE DEPTH UNDER BUILDING FOOTING IF REQUIRED.
   (b) FOR ADJACENT BUILDING FOOTINGS FOUNDING AT A LOWER LEVEL TO CRANE BASE:
      – 45° INFLUENCE LINE FROM EDGE OF CRANE BASE MUST PASS BELOW FOUNDING LEVEL OF BUILDING FOOTING. PROVIDE 25 MPa MASS CONCRETE BLINDING LAYER TO SUITABLE DEPTH UNDER CRANE BASE IF REQUIRED.

TEMPORARY ROCK ANCHOR NOTES

DESIGN

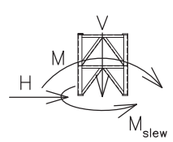
1. GROUND ANCHORS HAVE BEEN DESIGNED BASED ON THE FOLLOWING GEOTECHNICAL PARAMATERS: (BUILDER TO ARRANGE FOR GEOTECHNICAL ENGINEER TO VERIFY IN WRITING)
   (a) 1000 kPa ULTIMATE SHAFT ADHESION (600 kPa WORKING).
   (b) 8000mm MIN. FREE LENGTH (EXTEND TO RL –1.65m)
   (c) 8500mm MIN. BOND LENGTH (AS PROVIDED BY STRESSING CONTRACTOR)
   (d) INTERNAL CONE PULLOUT ANGLE TO VERTICAL = 45°
   (e) ROCK UNIT WEIGHT = 14 kN/m³.
   (f) FACTOR OF SAFETY IN ACCORDANCE WITH VSL TEMPORARY GROUND ANCHORS GUIDE SPECIFICATION SECTION 4.2.1.2.
2. GEOTECHNICAL ENGINEER TO VERIFY THAT ROCK ANCHOR DEPTH PROVIDES SUFFICIENT ROCK CONE WEGHT TO SATISFY STABILITY OF CRANE CONSIDERING LOADS NOTED IN "DESIGN LOADS" BELOW AND USING 'Mstab' FOR THE MOMENT.

GROUTING AND STRESSING

1. THE GROUT SHALL CONSIST OF A NEAT PORTLAND CEMENT, WATER AND GROUT BLEED CONTROL ADDITIVE.
2. THE WATER–CEMENT RATIO = 0.45.
3. MINIMUM BOND STRENGTH TO ROCK BOLT = 2.0 MPa
4. GROUT CUBE STRENGTH SHALL BE AT LEAST 40 MPa.
5. DO NOT STRESS ANCHOR UNTIL GROUT HAS REACHED 30 MPa MIN.
6. DO NOT ERECT CRANE UNTIL GROUT HAS REACHED 40 MPa. MIN.
7. REFER STRESSING REQUIREMENTS ON CRANE BASE SECTION FOR TEST AND LOCK OFF LOADS.

DESIGN LOADS

15 TOWERS (STAGE 2)



IN OPERATION	OUT OF OPERATION	CODES USED:
M = 12940 kNm	M = 14570 kNm	AS 1170 – PART 2 – WIND FORCES
H = 100 kN	H = 337 kN	AS 1418 – PARTS 1 & 4
V = 2482 kN	V = 2245 kN	AS 4100 – STEEL STRUCTURES
Mslew = 450 kNm	Mslew = 0 kN	AS 3600 – CONCRETE STRUCTURES
Mstab = 15608 kNm	Mstab = 18621 kNm	AS 2159 – SAA PILING CODE

General Notes
Do not scale from drawings.

Verify all dimensions on site and against other relevant consultant's drawings prior to commencing any work or making of shop drawings. Copying or the reproduction of this drawing is strictly prohibited without the consent of D.J.Hibbert Construction Engineers Pty. Ltd.

It is the responsibility of the person using this drawing to ensure the drawing has been issued by the Project Design Manager

Rev	Description	Drwn	Ver	Date
E	REVISED FOUNDATION DETAILS, JIB LENGTH	W.L.	D.H.	09.09.20
D	MOVED CRANE 700mm NORTH, CHANGED JIB LENGTH AND STAGE 1 FREESTAND HEIGHT	W.L.	D.H.	28.08.20
C	REVISED AS SHOWN	W.L.	D.H.	06.07.20
B	REVISED AS SHOWN	W.L.	D.H.	25.05.20
A	ISSUED FOR CONSTRUCTION	W.L.	D.H.	15.04.20
01	ISSUED FOR APPROVAL	W.L.	D.H.	24.04.20

Key Plan

FOR CONSTRUCTION

Scale / North Point

Material Handling Engineer

D.J.HIBBERT CONSTRUCTION ENGINEERS PTY LTD
STRUCTURAL ENGINEERING & MATERIAL HANDLING SPECIALISTS

Level 1, 50 Yeo St, Neutral Bay NSW 2089
Telephone: +612 9033 8699
Email: sydney@djhibbert.com.au

Client

THE MEN FROM MARR'S

MARR CONTRACTING PTY LTD
2 Chisholm Road Sefton NSW 2162
Phone (02) 9738 5533 • Fax (02) 9645 6875

Project Title

MATERIAL HANDLING AT METRO MARTIN PLACE

Drawing Title

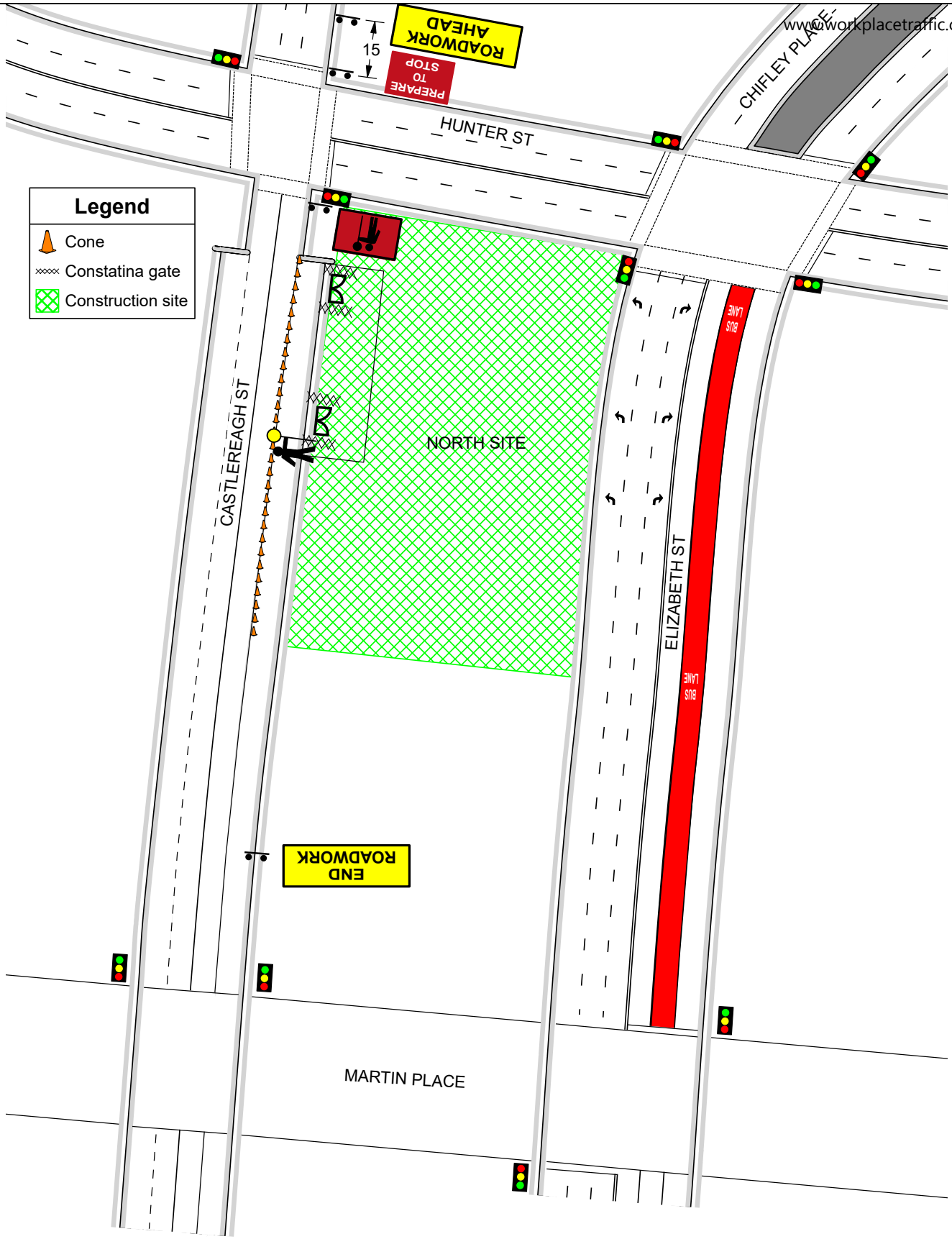
S TC1 - FAVCO M630D TOWER CRANE CONFIGURATION AND FOUNDATION DETAILS

Designed By	Drawn By	Checked By	Approved
DJHibbert	M.Llst	H. Singh	REng CPEng REAust EngExec NER No. 1152294

Project Number: 140602
Date of Dwgs: 24.04.20
Drawing Number: S100
Revision: E

Appendix E

Traffic Control Plans



NOTES:

1. THIS TRAFFIC CONTROL PLAN HAS BEEN DRAWN IN ACCORDANCE WITH AS 1742.3 AND "TRAFFIC CONTROL AT WORKSITES" MANUAL V5.
2. SIGNS & DEVICES ARE TO PLACED IN ACCORDANCE WITH THIS TCP, MODIFICATION MAY ONLY BE MADE BY PERSONS HOLDING THE APPROPRIATE RMS LICENCE
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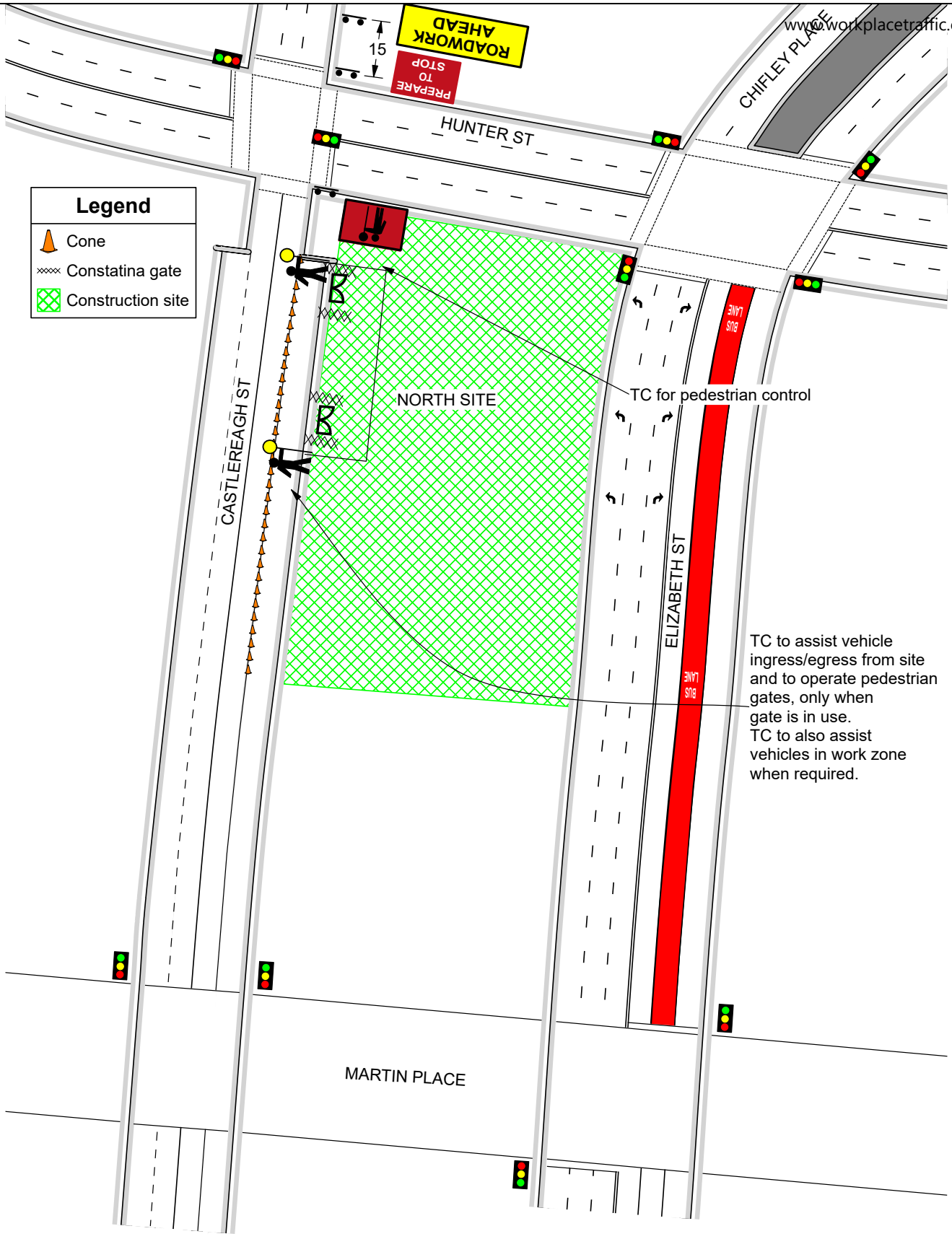
WORKPLACE TRAFFIC
1300 345 857

COUNCIL: CITY OF SYDNEY		DRAWN BY: GRAEME MOAT	DATE: 15/04/2020	PROJECT: MARTIN PLACE METRO	PLAN No : TCP 514 WORKZONE (no platform use)
APPROVAL REQUIRED:	CERT:		ORIGINAL SIZE:	CLIENT: LEND LEASE	
LOCAL X	005203826		A4 LANDSCAPE	CONTACT: LUKE HOGAN	PHONE: 0413 387 965
STATE					
OTHER					



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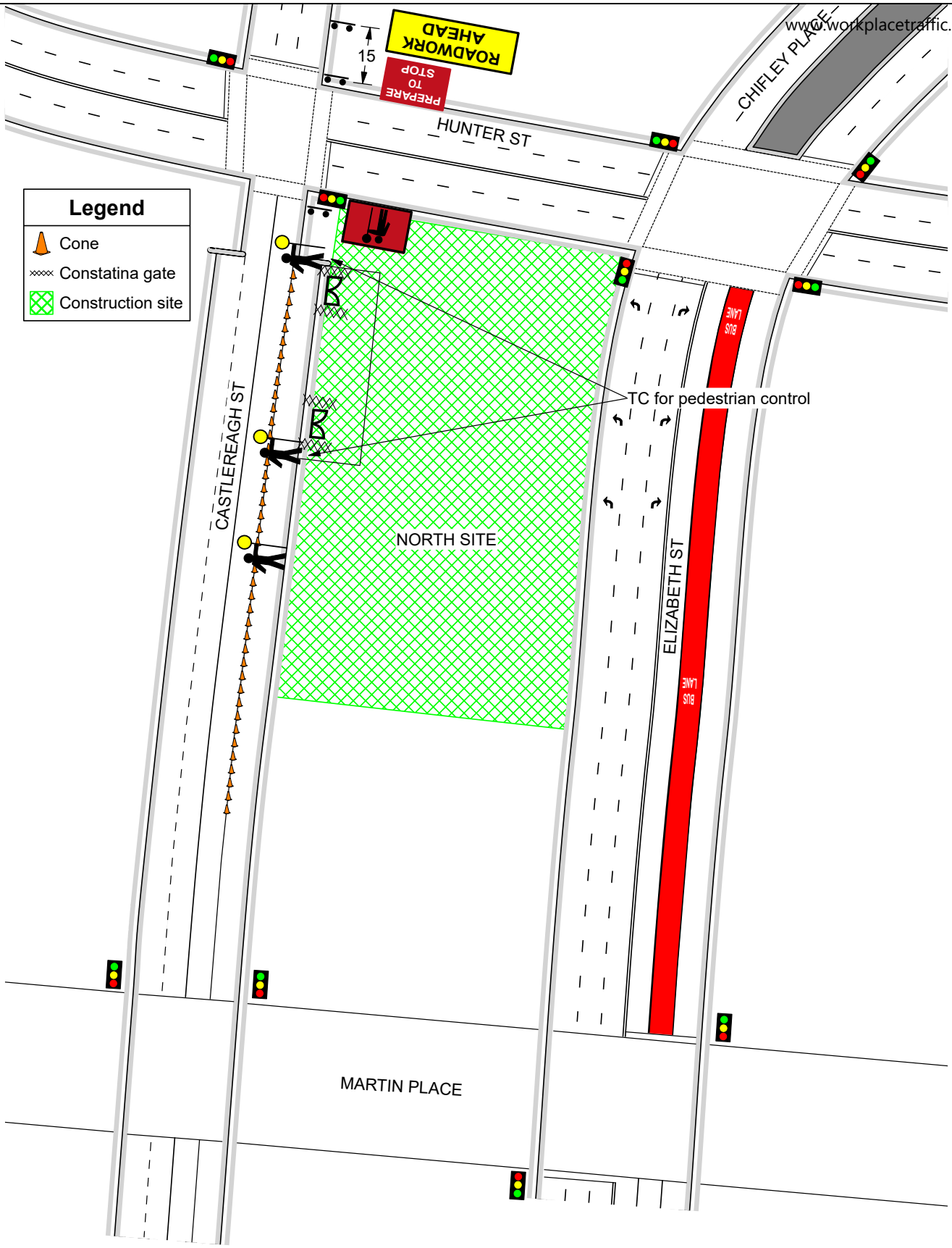
WORKPLACE TRAFFIC
1300 345 857

COUNCIL: CITY OF SYDNEY	DRAWN BY: GRAEME MOAT	DATE: 15/04/2020	PROJECT: MARTIN PLACE METRO	TCP 515 WORKZONE & PLATFORM (small pours & general use of platform
APPROVAL REQUIRED:	CERT: 005203826	ORIGINAL SIZE: A4 LANDSCAPE	CLIENT: LEND LEASE	
LOCAL X			CONTACT: LUKE HOGAN	PHONE: 0413 387 965
STATE				
OTHER				



NOTES:

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WORKPLACE TRAFFIC
1300 345 857

COUNCIL: CITY OF SYDNEY		DRAWN BY: GRAEME MOAT	DATE: 15/04/2020	PROJECT: MARTIN PLACE METRO	TCP 516 WORKZONE & PLATFORM (large concrete pours off platform)
APPROVAL REQUIRED:		CERT:	ORIGINAL SIZE:	CLIENT: LEND LEASE	
LOCAL	X	005203826	A4 LANDSCAPE	CONTACT: LUKE HOGAN	PHONE: 0413 387 965
STATE					
OTHER					

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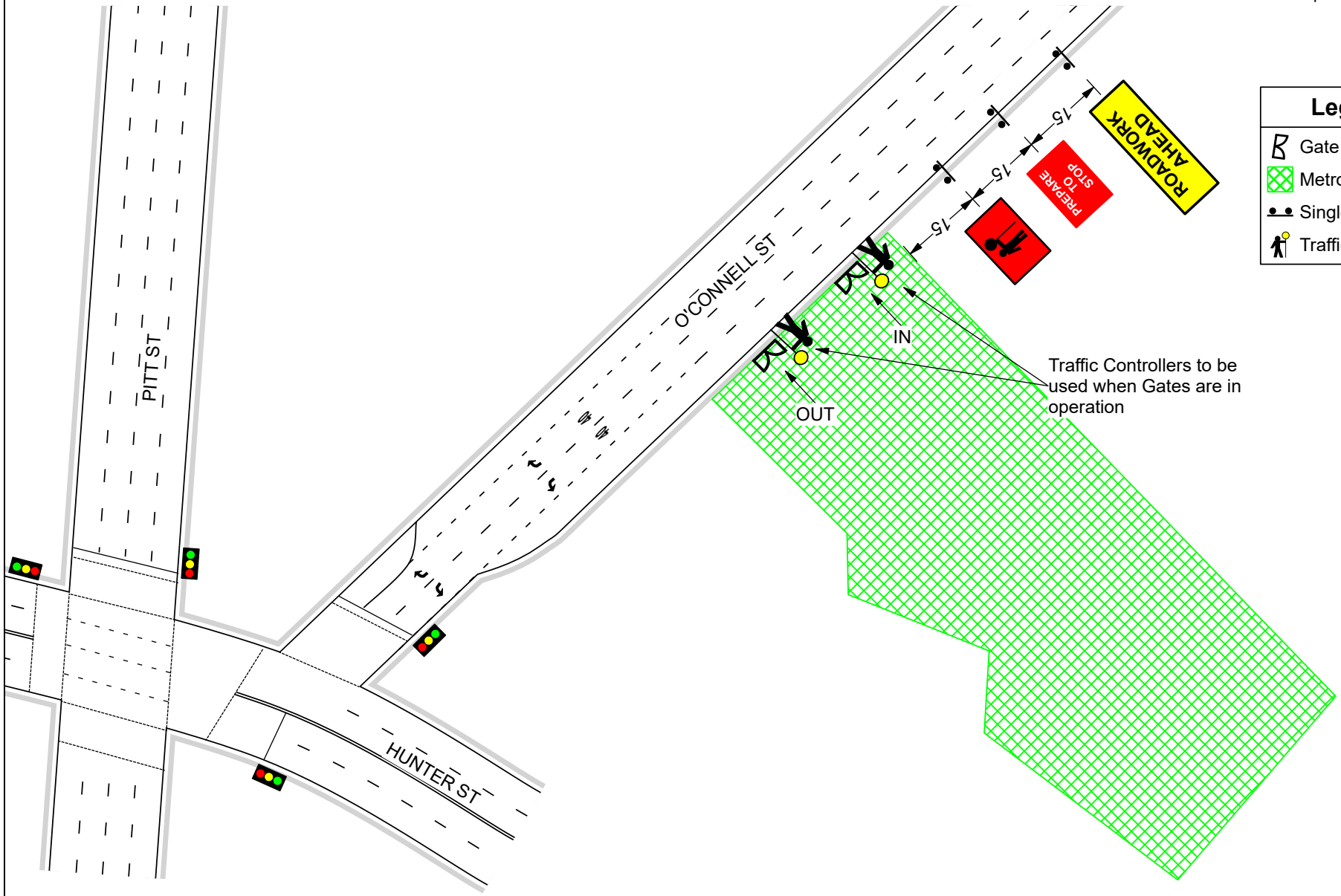

NOTES:

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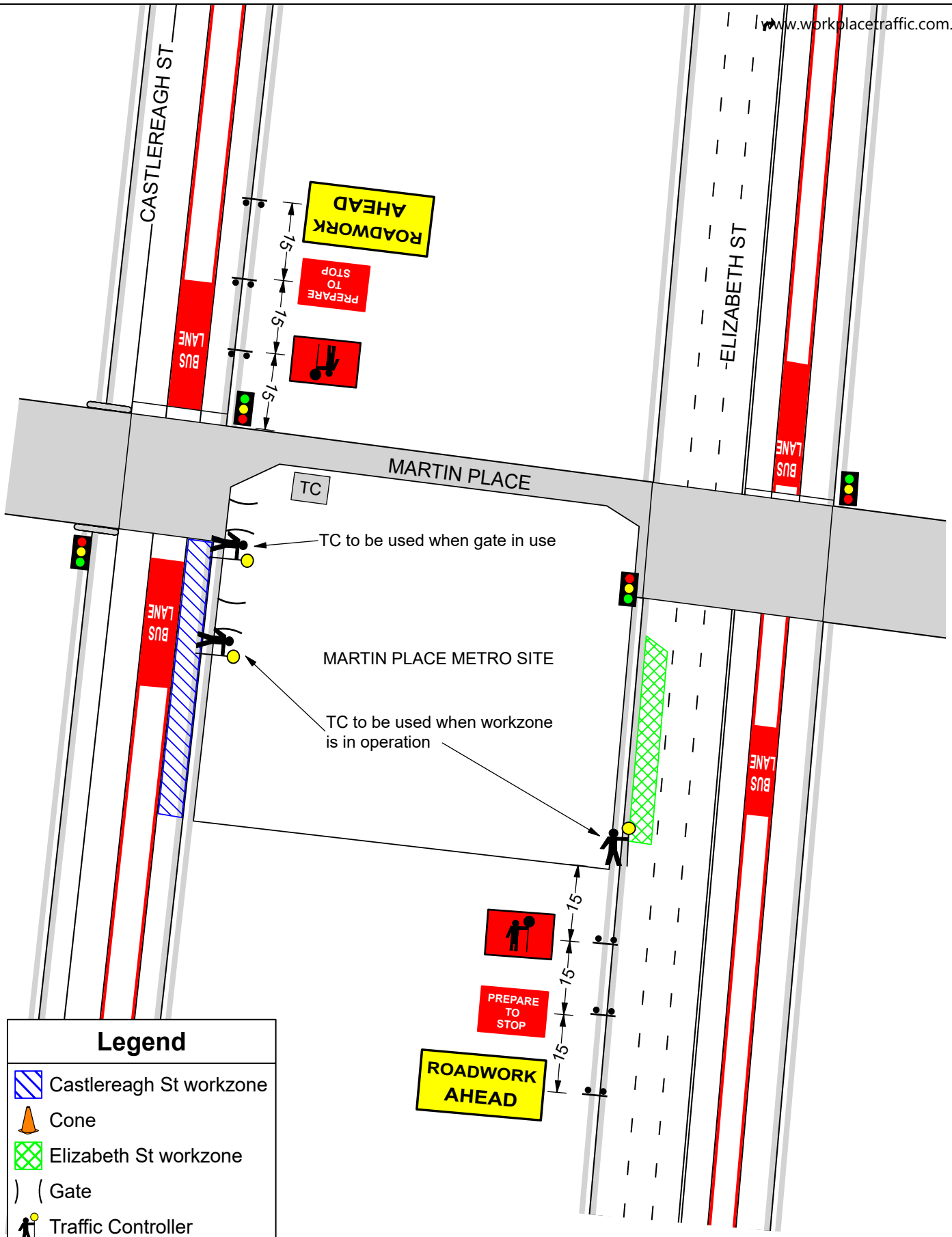
WORKPLACE TRAFFIC
1300 345 857

COUNCIL: CITY OF SYDNEY		DRAWN BY: GRAEME MOAT	DATE: 31/05/2020	PROJECT: MARTIN PLACE METRO
APPROVAL REQUIRED:		CERT: 0052038276	ORIGINAL SIZE: A4 LANDSCAPE	CLIENT: LEND LEASE
LOCAL	X			CONTACT: LUKE HOGAN / PHONE: 0413 387 965
STATE	X			PLAN No : TCP 559 MARTIN PLACE METRO - O'CONNELL ST SITE
OTHER				



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WORKPLACE TRAFFIC
1300 345 857

COUNCIL: CITY OF SYDNEY		DRAWN BY: GRAEME MOAT	DATE: 27/05/2020	PROJECT: MARTIN PLACE METRO	PLAN No: TCP 554
APPROVAL REQUIRED:		CERT: 0052038276	ORIGINAL SIZE: A4 LANDSCAPE	CLIENT: LEND LEASE	
LOCAL	X			CONTACT: LUKE HOGAN	PHONE: 0413 387 965
STATE					WORK ZONE LOCATIONS
OTHER	X				

Appendix F

Road Safety Audit

Sydney Metro Martin Place Site Accesses

Concept Design (Pre-Construction) Road Safety Audit

Prepared for:

Lendlease

27 February 2019

The Transport Planning Partnership

Sydney Metro Martin Place Site Accesses

Concept Design (Pre-Construction) Road Safety Audit

Client: Lendlease

Version: V01-F

Date: 27 February 2019

TTPP Reference: 18228

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01-F	27/02/19	Doris Lee	Ken Hollyoak	Ken Hollyoak	

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Tables

Figures

APPENDICES

1 Road Safety Audit Summary

Audited project:	Sydney Metro – Martin Place Station (Excavation and Station Construction)
Client:	Lendlease
Project manager:	Jason Ambler
Email address:	jason.ambler@lendlease.com
Telephone:	0415 737 750
Audit Team:	Ken Hollyoak (level 3 lead road safety auditor) Doris Lee (level 3 road safety auditor)
Audit type:	Concept Design (Pre-Construction) Audit
Commencement meeting:	N/A
Audit date:	16 January 2019
Completion meeting:	Not required

The objective of this road safety audit is to examine and identify road safety concerns in relation to the following construction activities during excavation and station construction works in construction stages 1A, 1B, 2A and 2B, as part of the Sydney Metro Project:

- Construction trucks entering and leaving the North Site and South Site via the proposed driveways in Castlereagh Street
- Construction trucks entering and leaving the temporary Works Zones located in the kerbside lane of Castlereagh Street and Elizabeth Street.

The findings of the road safety audit have been detailed in Section 4.3 of this report.

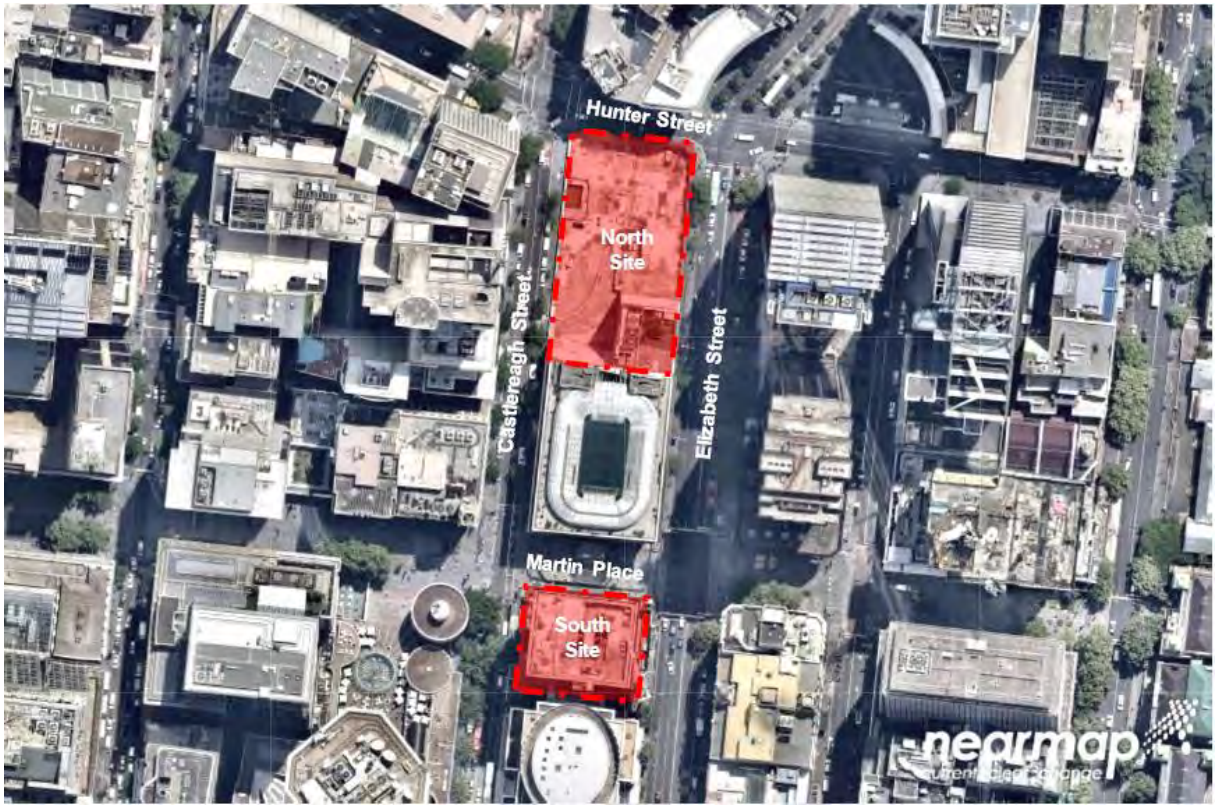
2 Introduction

2.1 Background

As part of the Sydney Metro Project, the excavation and construction of Martin Place Station would occur in the North Site and South Site at the following locations as shown in Figure 2.1:

- North Site is bound by Elizabeth Street to the east, Hunter Street to the north, Castlereagh Street to the west and the property located in 48-50 Martin Place to the south.
- South Site is bound by Elizabeth Street to the east, Martin Place to the north, Castlereagh Street to the west and the property located in 60-70 Castlereagh Street to the south.

Figure 2.1: Subject Sites and Surrounding Road Network



Source: Construction Traffic Management Plan, Sydney Metro Martin Place Excavation and Station Construction, TTPP, 14 January 2019

Table 2.1 provides a summary of the proposed site accesses and Works Zones for different construction stages.

Table 2.1: Proposed Site Access and Works Zone

Site	Construction Stage	Site Access	Works Zone
North site	Stage 1A	• Ingress driveway: the two existing driveways are to be combined to form a wide driveway in the northern end of the Castlereagh Street frontage • Egress driveway: existing driveway in the middle of the Castlereagh Street frontage	• N/A
	Stages 1B, 2A and 2B	• N/A	• 25m Works Zone in the northbound kerbside lane in Elizabeth Street • 48m Works Zone in the southbound kerbside lane in Castlereagh Street (with kerbline adjustment)
South site	Stages 1A and 1B	• N/A	• N/A
	Stages 2A and 2B	• Combined ingress and egress driveway: new driveway in the middle of the Elizabeth Street frontage	• 25m Works Zone in the northbound kerbside lane in Elizabeth Street • 20m Works Zone in the southbound kerbside lane in Castlereagh Street

This report has been prepared on behalf of Lendlease to present the road safety audit findings identified at the proposed driveways off Castlereagh Street as well as the Works Zones in the kerbside lanes in the west side of Elizabeth Street and east side of Castlereagh Street during different construction stages.

2.2 Audit Objective

The objective of this Audit was to ensure that there are no fundamental flaws in the geometric layout in relation to road safety that will be costly to fix at a later date both in terms of cost and time.

2.3 Design Drawings for the Road Safety Audit

The audit team was provided with the following design drawings and reviewed as part of this Audit. These design drawings are attached in Appendix A.

- North Site Traffic Control Plan Stage 1A Works, Rev A, dated 14 January 2019
- North Site Traffic Control Plan Stages 1B, 2A and 2B Works, Rev A, dated 14 January 2019
- South Site Traffic Control Plan Stage 2A and 2B Works, Rev A, dated 14 January 2019
- Swept Path Analysis Stage 1A, Rev A, dated 14 January 2019
- Swept Path Analysis Stage 1B, Rev A, dated 14 January 2019
- Swept Path Analysis Stage 1B & 2B and Stage 1B, 2A &2B, Rev A, dated 14 January 2019.

2.4 Procedures and Reference Material

The procedures used are these described in the Roads and Maritime Services' 2011 Guidelines for Road Safety Audit Practices. The Austroads Guide to Road Safety: Part 6 Roads Safety Audit checklist was used by the audit team as a reference in this detailed design 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.

2.5 Audit Team

The RSA was carried out by the following team:

- Ken Hollyoak (RSA-02-0249) – level 3 road safety auditor (lead auditor)
- Doris Lee (RSA-02-0128) – level 3 road safety auditor (team member)

Ken and Doris 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 commencement meeting was held in the form of a telephone conversation between Lendlease and TTPP prior to conducting the road safety audit. The purpose and scope of the project were discussed.

3.2 Site and Field Audit

A day time site inspection was carried out on Saturday 22 December 2018 in fine weather conditions.

The site was traversed in each direction to identify possible road safety concerns. Several photographs and video footage were taken for later review.

3.3 Completion Meeting

To be advised by Lendlease (if 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

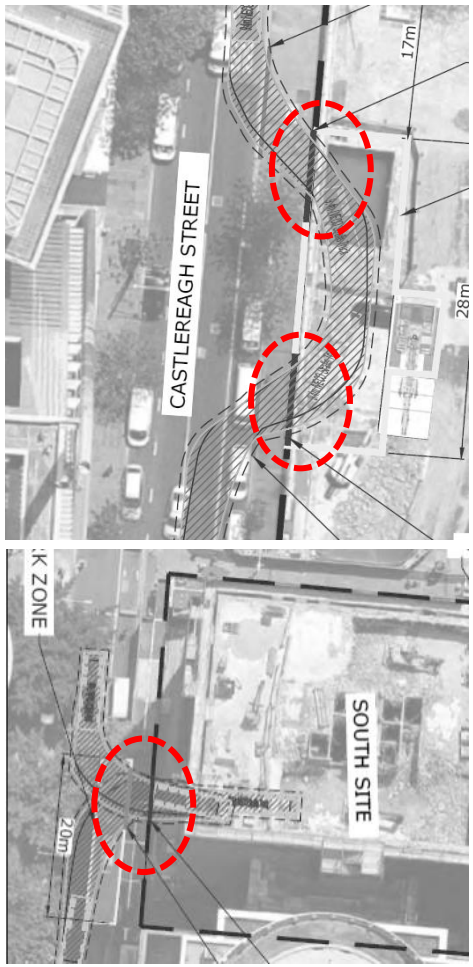
The audit findings are documented in Table 4.2 which provides:

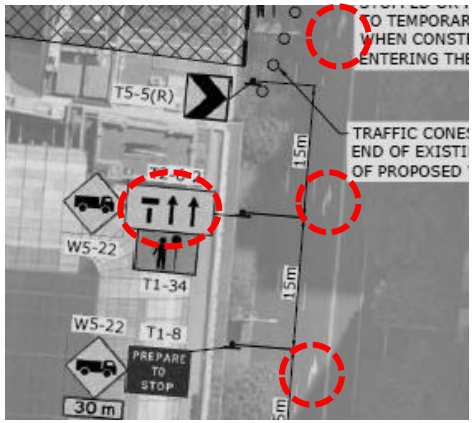
- specific details of the road safety issues identified during the audit
- a risk level rating for each of the road safety audit findings.

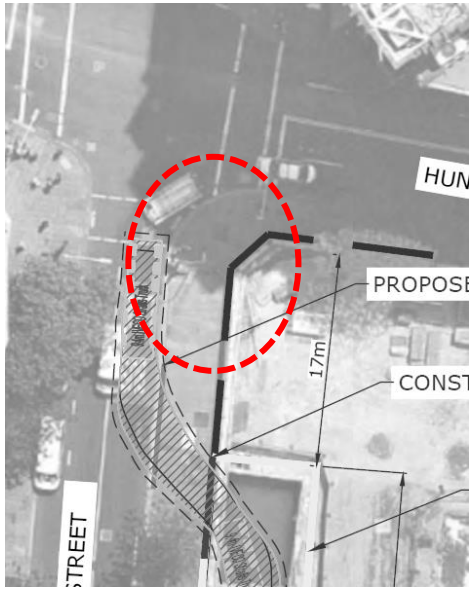
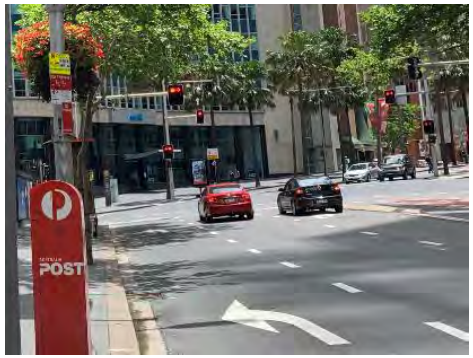
It should be acknowledged that positive attributes of the audited road section have not been discussed. Deficiencies that do not cause a safety problem are also not listed.

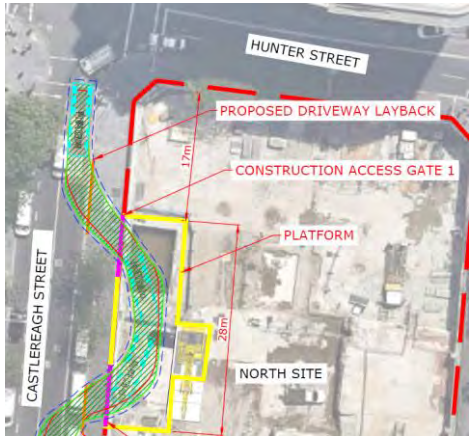
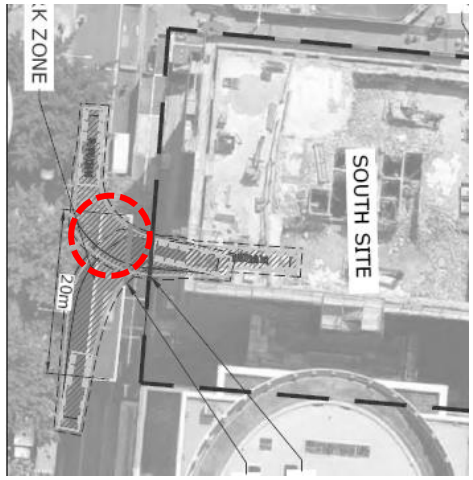
In-line with Roads and Maritime Services' best practice recommendations have not been included in the road safety audit findings.

Table 4.2: Road Safety Audit Findings

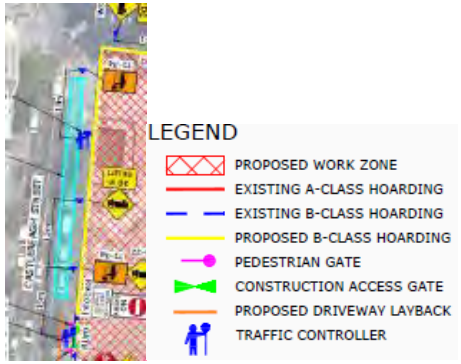
Item No.	Location	Description of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
1.	North Site - Castlereagh Street ingress and egress driveways (Stage 1A) South Site – Castlereagh Street combined ingress and egress driveway (Stages 2A and 2B)	Any excessive waiting time at the concertina gate located next to the driveway may result in pedestrians jaywalking across Castlereagh Street to avoid delays. From observations, pedestrian activity was high during peak commuter periods. There is a risk of pedestrians crossing Castlereagh Street in the vicinity of the proposed driveways when trucks are entering/ exiting the site.		Occasional	Moderate	Medium	Pedestrians would be held for a brief period of time only. Also, the number of vehicle movements in/out of the site in peak pedestrian periods would be low to frequency of interruption to pedestrian footpath would be minimal. Traffic controllers would be present to manage pedestrians with concertina gates.

Item No.	Location	Description of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
2.	North Site - Castlereagh Street egress driveway (Stage 1A)	The construction working hours coincide with the bus zone operation on Castlereagh Street between 3pm and 6pm Monday to Friday. Risk of traffic conflicts between buses moving along the bus layover and trucks (albeit a small number) turning into/out of the driveway. Furthermore, a stationary vehicle as shown in the photo may impede the sight line of a truck driver leaving the site. This may increase the potential for collisions involving crossing/ turning traffic.		Improbable	Moderate	Low	Traffic controllers would be present to manage truck movements out of the site. The traffic controller would observe traffic flow beyond any parked buses/ vehicles for a suitable gap in traffic to safely guide trucks out of the site.
3.	North Site – Elizabeth Street Works Zone (Stages 1B, 2A and 2B)	The TCP indicates that there are 2 straight ahead lanes passing the lane closure. One of these lanes is however a right turn lane and vehicles may therefore get trapped in the right turn lane. This could result in late lane change manoeuvres and side swipe crashes		Improbable	Moderate	Low	Elizabeth Street work zone arrangement has been removed from this CTMP. A work zone on Elizabeth Street may be considered post Light Rail opening (early to mid-2020) at which point new TCPs would be prepared as part of a separate CTMP.

Item No.	Location	Description of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
4.	North Site - Elizabeth Street ingress driveway (Stage 1A)	In the peak periods when surrounding pedestrian flows are high, potential build-up of pedestrians waiting at the concertina gate may extend to the waiting area at the signalised crossing (Hunter Street/ Castlereagh Street intersection).		-	-	Note only	
5.	North Site – Elizabeth Street Works Zone (Stages 1B, 2A and 2B)	The northbound left turn movement at the Elizabeth Street and Hunter Street intersection is held during the first 6-10 seconds when the traffic signal is green for the northbound through movement in Elizabeth Street. The proposed Works Zone in Elizabeth Street would cause the left turn lane to reduce by 25m in length compared with the normal kerbside use during commuter peak periods. Therefore, the shortened left turn lane may result in traffic queue overspilling to the adjacent lane and impeding the through movement.		-	-	Note only	

Item No.	Location	Description of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
6.	North Site - Elizabeth Street ingress driveway (Stage 1A)	It is noted that the TCP does not indicate the width of the combined driveway but it seems to be approximately 10m, which is more than the City of Sydney requirement of 6m for commercial and industrial driveways. The swept path diagram indicates a construction vehicle would enter the site at an angle. An angled entry would increase the crossing distance and time for pedestrians and it is not a common practice in the CBD environment.		-	-	Note only	
7.	South Site - Castlereagh Street driveway (Stages 1B, 2A and 2B)	The TCP and swept path diagram indicate that a tree may be located very close to, or within, the proposed driveway. If it is located adjacent to the driveway, the swept path of a 9.3m construction vehicle entering/leaving the site is very close to the tree. Risk of a truck hitting the tree while turning left into the site. The tree may also impede the sightline of the truck driver when leaving the site.		-	-	Note only	

Item No.	Location	Description of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
							
8.	South Site- Elizabeth Street (Stages 2A and 2B)	Unlike the TCP for the North Site (Stage 1B, 2A and 2B), the kerbside lane is not closed off with a taper defined by cones. However, the note in the TCP suggests that the traffic controller will temporarily relocate cones to permit vehicles to enter the work zone.		-	-	Note only	

Item No.	Location	Description of Findings	Design/ Photo	Likelihood	Severity	Risk Rating	Designer Response
9.	North South - Castlereagh Street Work Zones (Stages 1B, 2A and 2B)	The blue shaded area is presumed to be the Works Zone but is not indicated as such in the legend.		-	-	Note only	

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.

_____

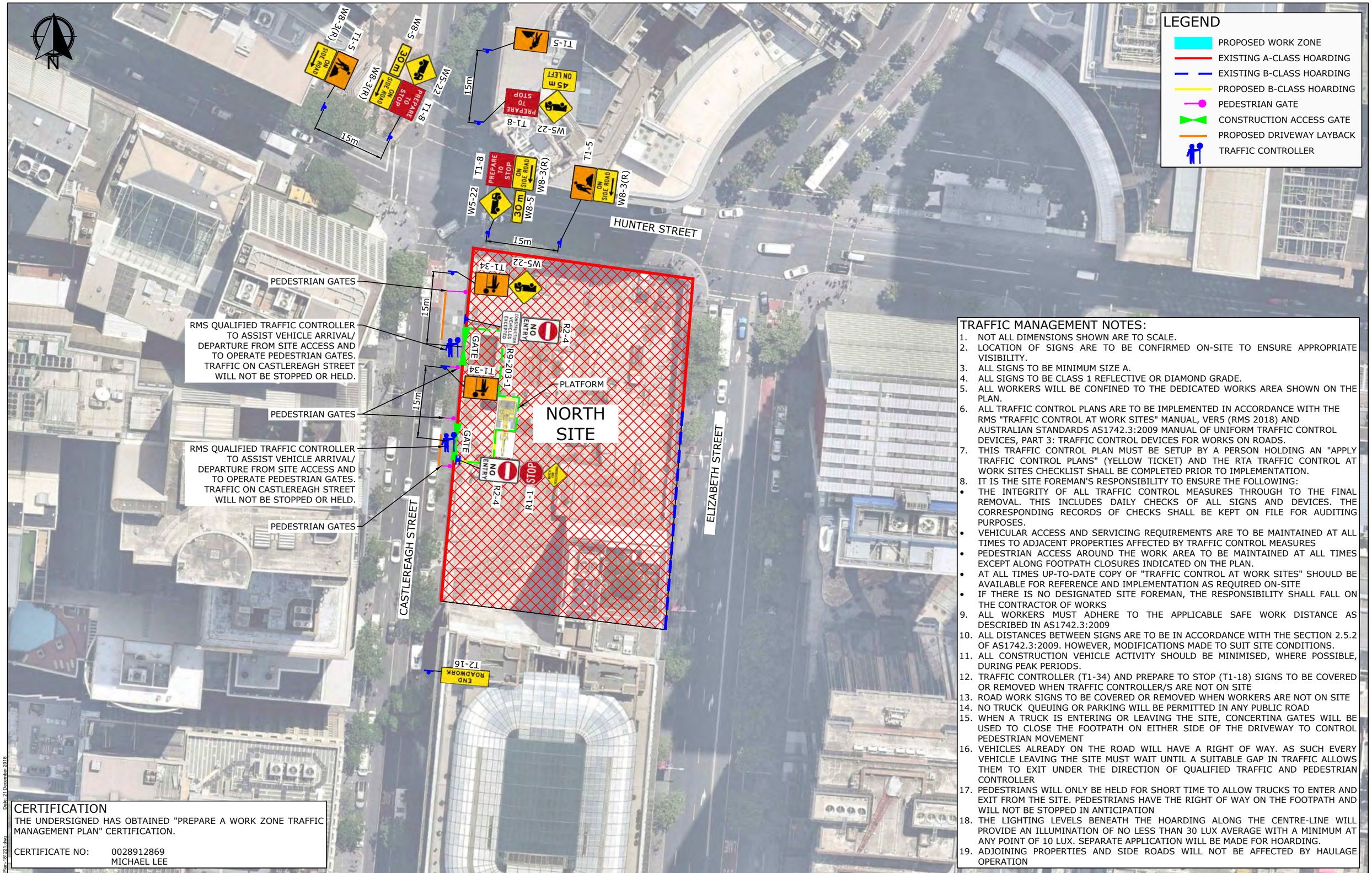
Ken Hollyoak
Level 3 Lead Road Safety Auditor
The Transport Planning Partnership

_____

Doris Lee
Level 3 Road Safety Auditor
The Transport Planning Partnership

Appendix A

Traffic Control Plans and Swept Path Figures



LEGEND

- PROPOSED WORK ZONE
- EXISTING A-CLASS HOARDING
- EXISTING B-CLASS HOARDING
- PROPOSED B-CLASS HOARDING
- PEDESTRIAN GATE
- CONSTRUCTION ACCESS GATE
- PROPOSED DRIVEWAY LAYBACK
- TRAFFIC CONTROLLER

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 RMS "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER5 (RMS 2018) 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 RTA 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 EXCEPT ALONG FOOTPATH CLOSURES INDICATED ON THE PLAN.
   - 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. TRAFFIC CONTROLLER (T1-34) AND 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. NO TRUCK QUEUING OR PARKING WILL BE PERMITTED IN ANY PUBLIC ROAD
15. WHEN A TRUCK IS ENTERING OR LEAVING THE SITE, CONCERTINA GATES WILL BE USED TO CLOSE THE FOOTPATH ON EITHER SIDE OF THE DRIVEWAY TO CONTROL PEDESTRIAN MOVEMENT
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19. ADJOINING PROPERTIES AND SIDE ROADS WILL NOT BE AFFECTED BY HAULAGE OPERATION

CERTIFICATION

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

CERTIFICATE NO: 0028912869
MICHAEL LEE

Date: 21 December 2018

Filename: 18228CAD007-Traffic Control Plan-181221.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	ML	SB	WJ	21/12/18

ttpp transport planning

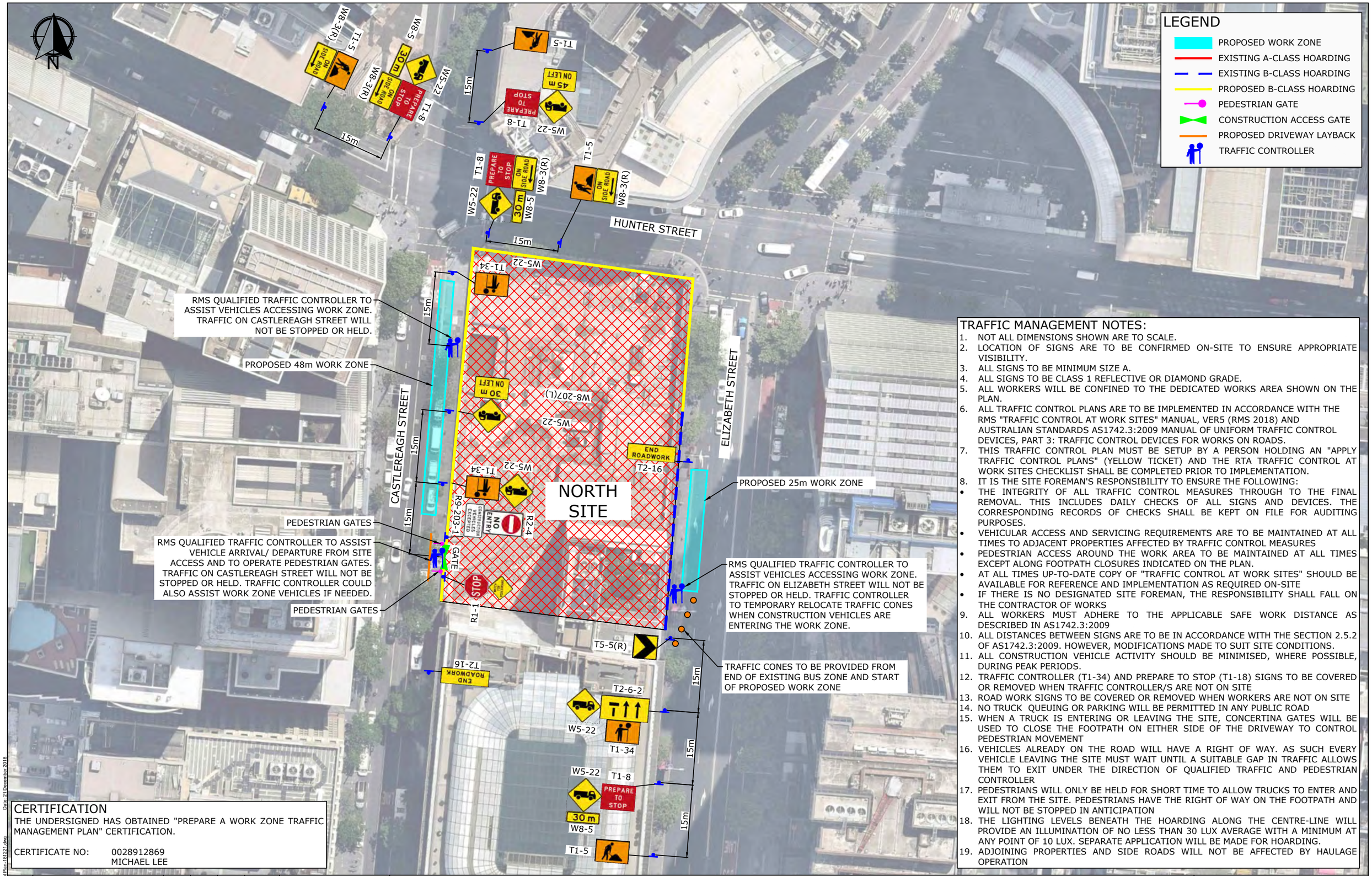
PROJECT
SYDNEY METRO PROJECT
MARTIN PLACE STATION - STAGE 1A WORKS

TITLE
TRAFFIC CONTROL PLAN
NORTH SITE

DWG No. 18228CAD007 FIGURE 1

DATE STAMP 21 DECEMBER 2018

PROJECT No.	SCALE	REV.
18228	1:700 @A3	A



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 RMS "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER5 (RMS 2018) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
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   - VEHICULAR ACCESS AND SERVICING REQUIREMENTS ARE TO BE MAINTAINED AT ALL TIMES TO ADJACENT PROPERTIES AFFECTED BY TRAFFIC CONTROL MEASURES
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11. ALL CONSTRUCTION VEHICLE ACTIVITY SHOULD BE MINIMISED, WHERE POSSIBLE, DURING PEAK PERIODS.
12. TRAFFIC CONTROLLER (T1-34) AND PREPARE TO STOP (T1-18) SIGNS TO BE COVERED OR REMOVED WHEN TRAFFIC CONTROLLER/S ARE NOT ON SITE
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CERTIFICATE NO: 0028912869
MICHAEL LEE

Date: 21 December 2018

Filename: 18228CAD007-Traffic Control Plan-181221.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	ML	SB	WJ	21/12/18

ttpp transport planning

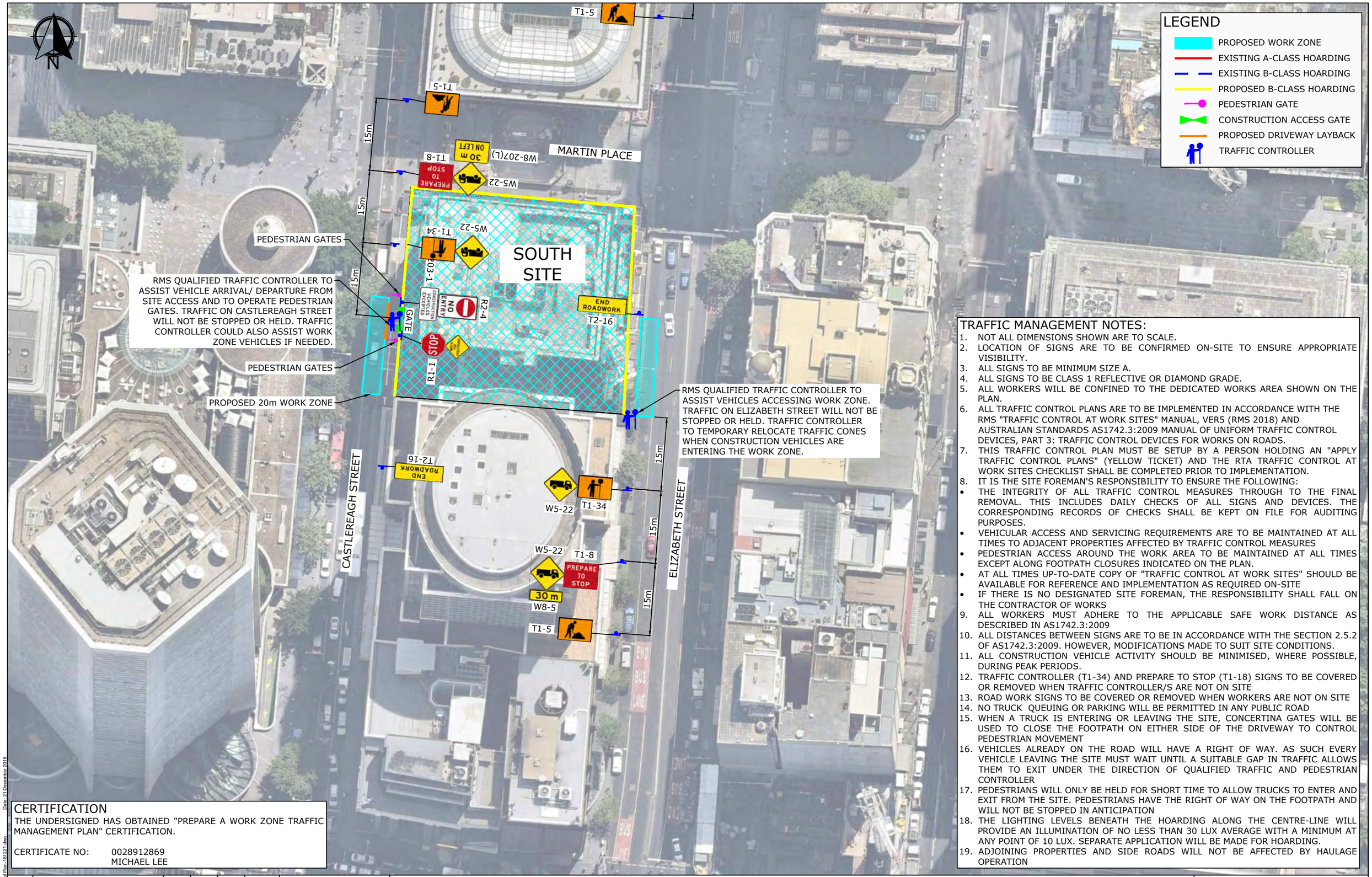
PROJECT
SYDNEY METRO PROJECT
MARTIN PLACE STATION - STAGE 1B, 2A AND 2B WORKS

TITLE
TRAFFIC CONTROL PLAN
NORTH SITE

DWG No. 18228CAD007
FIGURE 2

DATE STAMP 21 DECEMBER 2018

PROJECT No.	SCALE	REV.
18228	1:700 @A3	A



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A	ISSUE FOR DISCUSSION	ML	SB	WJ	21/12/18

ttpp transport planning

PROJECT
SYDNEY METRO PROJECT
MARTIN PLACE STATION - STAGE 2A AND 2B WORKS

TITLE
TRAFFIC CONTROL PLAN
SOUTH SITE

DWG No. 18228CAD007
FIGURE 3

DATE STAMP 21 DECEMBER 2018

PROJECT No.	SCALE	REV.
18228	1:700 @A3	A

Date: 21 December 2018
Filename: 18228CAD007-Traffic Control Plan-181221.dwg

HUNTER STREET

CASTLEREAGH STREET

ELIZABETH STREET

PROPOSED DRIVEWAY LAYBACK

CONSTRUCTION ACCESS GATE 1

SITE BOUNDARY

PLATFORM

17m

28m

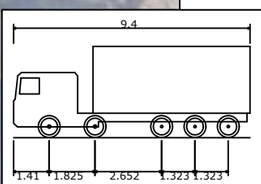
NORTH SITE

CONSTRUCTION ACCESS GATE 2

PROPOSED DRIVEWAY LAYBACK

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



9.4m IVECO Strallis Truck

Overall Length	9400mm
Overall Width	2500mm
Overall Body Height	3633mm
Min Body Ground Clearance	428mm
Track Width	2500mm
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	11250mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	20/12/18

ttpp transport planning

PROJECT

SYDNEY METRO PROJECT
MARTIN PLACE STATION

TITLE

9.4m RIGID TRUCK SWEPT PATH ANALYSIS
STAGE 1A

DWG No. 18228CAD006
FIGURE 1

DATE STAMP 20 DECEMBER 2018

PROJECT No.	SCALE	REV.
18228	1:500 @ A3	A

Filename: 18228CAD006-SWEPT PATH-181220.dwg Date: 20 December 2018 By: Karl.mastrisdo

HUNTER STREET

CASTLEREAGH STREET

ELIZABETH STREET

NORTH SITE

PROPOSED WORK ZONE

48m

PROPOSED WORK ZONE

25m

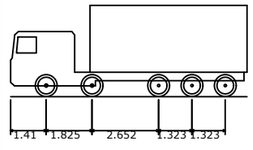
CONSTRUCTION ACCESS GATE 3

EXISTING DRIVEWAY LAYBACK

N

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
300mm clearance		



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REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	20/12/18

ttpp transport planning

PROJECT
SYDNEY METRO PROJECT
MARTIN PLACE STATION

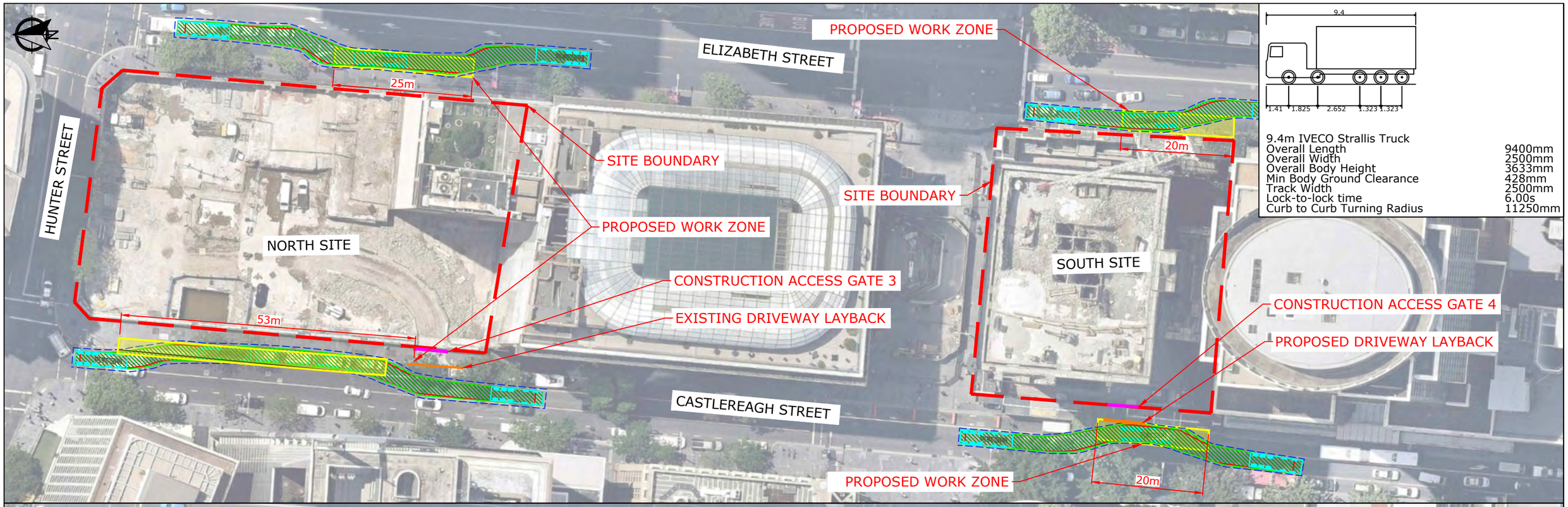
TITLE
9.4m RIGID TRUCK SWEPT PATH ANALYSIS
STAGE 1B

DWG No. 18228CAD006
FIGURE 2

DATE STAMP 20 DECEMBER 2018

PROJECT No. 18228 | SCALE 1:500 @ A3 | REV. A

Filename: 18228CAD006-SWEPT PATH-181220.dwg
Date: 20 December 2018
By: Karl.magistrado



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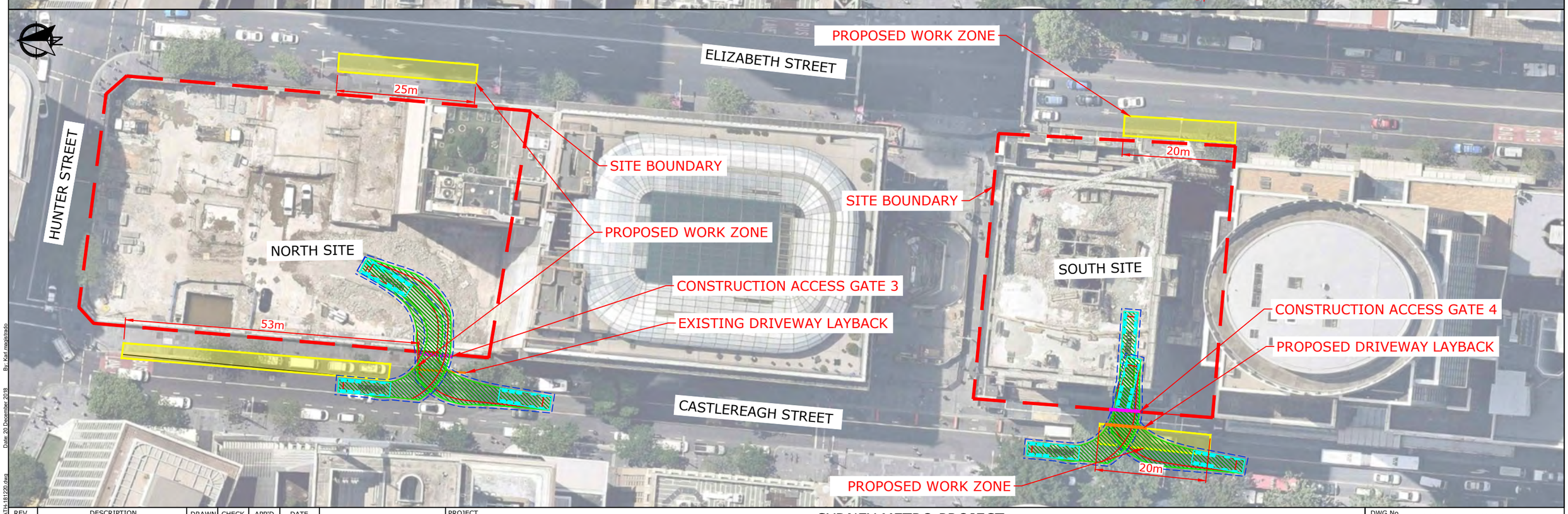

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	SB	WJ	20/12/18

ttpp transport planning

PROJECT
SYDNEY METRO PROJECT
MARTIN PLACE STATION

TITLE
9.4m RIGID TRUCK SWEPT PATH ANALYSIS
STAGE 1B & 2B AND STAGE 1B, 2A & 2B

DWG No. 18228CAD006
FIGURE 3

DATE STAMP 20 DECEMBER 2018

PROJECT No.	SCALE	REV.
18228	1:700 @ A3	A

By: Kiril.manatrado
Date: 20 December 2018
Filename: 18228CAD006-SWEPT PATH-181220.dwg

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

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Appendix G

Ministerial Approval & Community Agreement for Extended Work Days & Work Hours

Environmental Planning and Assessment (COVID-19 Development—Infrastructure Construction Work Days) Order 2020

I, the Hon. Rob Stokes, MP, the Minister for Planning and Public Spaces, make the following Order under section 10.17 of the *Environmental Planning and Assessment Act 1979*.

I am satisfied this Order is necessary to protect the health, safety and welfare of members of the public during the COVID-19 pandemic, as it will facilitate social distancing by spreading infrastructure construction work over more days in a week. I have consulted with the Minister for Health and Medical Research in relation to the making of this Order.

1 Name of Order

This Order is the *Environmental Planning and Assessment (COVID-19 Development—Infrastructure Construction Work Days) Order 2020*.

2 Commencement

This Order commences on the day it is published in the Gazette and remains in force for the prescribed period within the meaning of section 10.17 of the Act.

3 Definitions

(1) In this Order—

the Act means the *Environmental Planning and Assessment Act 1979*.

Note. The Act and the Interpretation Act 1987 contain definitions and other provisions that affect the interpretation and application of this Order.

(2) Notes included in this Order do not form part of this Order.

4 Relationship with orders under the *Public Health Act 2010*

To the extent that this Order is inconsistent with an order under Part 2 of the *Public Health Act 2010*, the order under that Part prevails.

5 Development authorised by this Order

The development specified for this Order may be carried out without the need for any approval under the Act if it complies with the conditions specified for the development.

6 Infrastructure construction work days

(1) The carrying out of any building work or work, or the demolition of a building or work, on a Saturday, Sunday or public holiday is development specified for this Order.

(2) The conditions specified for the development are that the development must—

(a) must be the subject of an approval granted before the commencement of this Order, and

(b) must comply with all conditions of the approval other than any condition that restricts the hours of work or operation on a Saturday, Sunday or public holiday, and

(c) for work or operation on a Saturday, Sunday or public holiday—

(i) comply with the conditions of the approval that restrict the hours of work or operation on any other day as if the conditions applied to work or operation on a Saturday, Sunday or public holiday, and

(ii) not involve the carrying out of rock breaking, rock hammering, sheet piling, pile driving or similar activities during the hours of work or operation that would not be permitted but for this Order, and

(iii) take all feasible and reasonable measures to minimise noise.

(3) In this clause—

approval means:

(a) a State significant infrastructure approval,

(b) an approval within the meaning of Division 5.1 of the Act that is granted in relation to an activity the subject of environmental assessment under Division 5.1 of the Act, and

(c) an authorisation under Part 3 of the *Water Supply (Critical Needs) Act 2019*.

condition includes a limitation on the carrying out of an activity required by the determining authority when granting an approval in relation to the activity.

7 Suspension of regulatory instruments

(1) For the purpose of enabling development to be carried out in accordance with clause 6 of this Order, the following regulatory instruments do not apply to the extent necessary to serve that purpose:

(a) any agreement, covenant or other similar instrument that restricts the carrying out of that development, and

(b) an environment protection licence under the *Protection of the Environment Operations Act 1997* that was issued before the commencement of this Order.

Note. All other conditions of an environment protection licence continue to apply.

The Hon. Rob Stokes, MP
Minister for Planning and Public Spaces

Out of Hours Work Application Form

This form is to be used for formal review and approval of Sydney Metro Out of Hours (OOH) work as it may affect Residential and non-Residential receivers. This form can be used in accordance with the *SM ES-PW-317 City & Southwest Out of Hours Work Strategy / Protocol*. Each OOH application and all applicable appendices must be submitted to Sydney Metro as one PDF file at least 15 business days prior to the commencement of the proposed OOH work.

1. OOH Application	
Sydney Metro Project: E.g. Northwest, City & Southwest, West, etc.	City & Southwest
Contract:	MP-ISD
Contractor:	Lendlease/Macquarie
Application Title: E.g. 'Smith St service relocation works'	Bulk Excavation Community Agreement
Application Number: E.g. 1, 2, 3, etc.	MP-ISD OOH29
Application Date: Original submission date (resubmission date in parentheses if applicable)	28/02/20
Relevant Planning Approval:	SSI 15_7400
Environment Protection Licence (EPL): If subject to an EPL, state title and number.	N/A

2. Proposed OOH Work Details		
Description of works, including: • Work methodologies. • List of plant / equipment to be used (worst case scenario). • Location Map (and/or Environmental Control Map) attached as Appendix 1, indicating location of works, plant / equipment locations and receivers (including distance to nearest receiver for noisiest plant / equipment). • Traffic Management Plan and/or Traffic Control Plan if applicable as Appendix 2.	Detailed Excavation and General Earthworks – • Machine set up • Rock Hammering and Anchoring • Haulage – loading stockpile material into trucks for removal off site • Trucks entering and exiting site via Castlereagh Street and Bligh Street Dive • Deliveries Construction Activities – • Site, plant and equipment set up • Hoist and Crane setup and operations • Concrete pours • General construction works • Use of mobile lighting (to be directed away from residential properties) and generators	
Timing of works: Including proposed dates / times works are planned to be undertaken outside standard hours.*	**Construction activity**	**Timeframe outside approved hours (from 14 March 2020)**
	Site, Plant and Equipment set up, material deliveries, spoil haulage and hoist operations	Monday to Saturday 5am to 6am
	Material deliveries, spoil haulage, tower crane operations, hoist operations, concrete pours and general construction works	Monday to Saturday 6am to 7am

	Material deliveries, spoil haulage, concrete pours, concrete finishing, tower crane operations, hoist operations and general construction works	Monday to Saturday 6pm to 10pm
	No high impact noise/vibration activities to occur (jack hammering, rock breaking, vibratory rolling, any other works occurring on the surface that generates noise with impulsive, intermittent, tonal or low frequency characteristics	Monday to Saturday 5am to 8am, 12pm to 1pm and 7pm to 10pm
Worst-case number of consecutive occasions affecting the same receiver: Refer to Section 4 for definition of 'occasion'.	This is proposed to run under a community negotiated agreement so will be enforced for an extended duration – approximately 10 months	
Justification: Demonstrate how the proposed OOH work has been scheduled in accordance with the OOH work period prioritisation list.* Program acceleration is generally not accepted as a justification.	Community negotiated agreement reached. CBD location has limited impacted receivers at the proposed times, with 78.5% support (currently) of affected receivers supporting the proposed extended hours. The other 21.5% have yet to respond to multiple attempts at contact. This 21.5% includes three commercial businesses – a Café/Restaurant at 19 Martin Place (open from 6:00am to 6:00pm), Channel 7 (24hr recording studio) at 52-56 Martin Place and the Sofitel hotel at 61-101 Phillip Street. All other business, hotels and residential buildings agreed to the times and activities noted above.	

* Unless specified otherwise in project-specific documentation, the prioritisation of work time periods is as follows:

- **Standard Hours:** 7am to 6pm weekdays and 8am to 1pm Saturdays (note that Standard Hours for works subject to the City & Southwest Sydenham to Bankstown planning approval also include 1pm to 6pm Saturdays).
- **Daytime OOH:** 1pm to 6pm Saturdays and 8am to 6pm Sundays and Public Holidays.
- **Evening OOH:** 6pm to 9pm every day.
- **Night Time OOH:** 9pm to 7am weekday mornings and 9pm to 8am weekend and Public Holiday mornings.

3. Assessed Noise and Vibration Impacts and Standard Mitigation Measures	
Are the proposed works consistent with a prepared Construction Noise & Vibration Impact Statement (CNVIS)? (Y / N)	**Yes**
If 'N', skip this section and move to Section 4.	
State the title of the CNVIS and attach the section(s) describing the noise and vibration impacts of the proposed works as Appendix 3.	• TK422-04 F01 (r2) Martin Place Metro Excavation and Construction CNVIS • TK422-09F02 CNVIS ADD OOHW spoil haulage (r4) • TK422-07F02 Sydney Water Vibration (r2)
Quantitatively summarise the worst-case predicted noise and vibration impacts specific to the proposed OOH work for each OOH period on the nearest receivers and compare these against the respective management levels. **For Night Time OOH Period works, include a review of potential sleep disturbance impacts in accordance with Section 4.3 of the ICNG.**	Worst-case predicted noise impact summary: • 59dBA LAeq internal at 1 Hosking Place – Adina serviced apartments (79 for Res external) • 57dBA LAeq internal at 27-39 Castlereagh Street – CTA Business Club (77 for external Non-Res) Worst-case predicted vibration impact summary: • The receivers within identified buffer distances for human annoyance are commercial receivers that will not be operating at the hours proposed. Potential sleep disturbance summary (for night time OOH periods only): • Anticipated to be below noise management levels and sleep disturbance criteria for works completed 5-7am, 6-10pm.
Using Table 4 and Table 5, indicate in Table 6: • Which Additional Mitigation Measures (AMMs) are applicable for consideration, • Which of those applicable for consideration are planned to be implemented, • For AMMs that are applicable for consideration but not being implemented, justify why the AMM is not being implemented. • For AMMs that are being implemented, provide details on how the AMM is being implemented (e.g. which receivers being offered respite, alternative accommodation, etc.).	

4. Non-Assessed Noise and Vibration Impacts

Skip this section if Section 3 has been completed in full.

A quantitative noise assessment for OOH work is to be carried out in accordance with the *Interim Construction Noise Guideline* (DECC, 2009). This section allows applicants to address these requirements through the following steps:

1) Establishing Rating Background Levels (RBLs) and Noise Management Levels (NMLs).
2) Predicting the anticipated noise levels using a quantitative noise assessment:
   a. Works that are not likely to generate high noise impacts for a significant duration may use a preliminary quantitative noise assessment (facilitated within this form). This ensures that all applications, as a minimum, include a preliminary quantitative noise assessment in accordance with the *Interim Construction Noise Guideline* (ICNG).
   b. Works that are likely to generate high noise impacts for a significant duration may require a detailed quantitative noise assessment (e.g. Construction Noise and Vibration Impact Statement) to be undertaken.
   c. Works that are likely to generate ground-borne or structure-borne vibration and/or noise require specialist advice and assessment.
3) Comparing predicted noise levels against RBLs / NMLs and applying standard mitigation measures as appropriate (i.e. implementing 'all feasible and reasonable' mitigation measures in accordance with the ICNG).
4) Considering additional mitigation measures when predicted noise levels exceed RBLs / NMLs.

The need for a detailed quantitative noise and vibration assessment will be considered by Sydney Metro, the contractor and the Acoustic Advisor / Environmental Representative (if applicable) collectively when the predicted noise levels are anticipated to:

- Exceed an RBL at a residential receiver or an NML at a non-residential receiver by more than 10dBA, **AND**
- Affect the same receiver on 10 or more consecutive **occasions**. An occasion is anytime works are carried out:
  - Between 6pm on a weekday and the start of standard hours the next day, **OR**
  - Between 1pm on a Saturday and 8am on a Sunday (or between 6pm on a Saturday and 8am on a Sunday for works subject to the Sydenham to Bankstown planning approval), **OR**
  - Between 8am on a Sunday or public holiday and the start of standard hours the next day.

A detailed quantitative noise and vibration assessment should generally include:

- Derivation of RBLs for residential receivers and/or derivation of NMLs for non-residential receivers based on noise monitoring at representative locations and local sensitivities.
- Detailed noise predictions for daytime, evening and night time OOH periods (as applicable) in accordance with Section 4.5 of the ICNG (including an outline of timing, duration and predicted noise levels for each OOH period).
- For Night Time OOH Period works, a review of potential sleep disturbance impacts in accordance with Section 4.3 of the ICNG.
- Detailed predictions of vibration levels for sensitive receivers.

Please complete the following Steps 1 to 4.

Step 1: RBLs / NMLs	If RBLs for residential receivers or NMLs for non-residential receivers have already been established (e.g. in an Environmental Impact Statement, Review of Environmental Factors, detailed quantitative noise assessment or Construction Noise and Vibration Impact Statement for other work activities), enter into Table 3 and attach the supporting evidence as Appendix 3. If no RBLs / NMLs have been established, use Table 1 to estimate and enter into Table 3.
Step 2: Predicted Anticipated Noise Levels	If predicted anticipated noise levels have already been established (e.g. in an Environmental Impact Statement, Review of Environmental Factors, detailed quantitative noise assessment), enter the predicted anticipated noise levels into Table 3 and attach the supporting evidence as Appendix 3. If predicted anticipated noise levels have not already been established, use Table 2 to estimate anticipated noise aspects for the noisiest plant / equipment and enter into Table 3. In Table 3, use these values to calculate the anticipated predicted noise levels.
Step 3: Exceedances and Mitigation Measures	Compare the anticipated predicted noise levels to the applicable RBLs / NMLs, calculate the exceedances and enter into Table 3. In Section 5, provide a description of the standard mitigation measures that are planned to be implemented in order to mitigate the noise impacts (and vibration impacts if relevant) as much as 'feasible and reasonable' in accordance with the ICNG.
Step 4:	Use Table 4 and the exceedances in Table 3 to determine the applicable Additional Mitigation Measures for consideration. Use

Consideration of Additional Mitigation Measures	Table 6 to indicate which of these measures are applicable for consideration, which will be implemented and provide justification / details accordingly.

5. Standard Mitigation Measures	
Outline the standard noise mitigation measures that will be implemented during the proposed OOH work: I.e. Implementation of all 'feasible and reasonable' mitigation measures in accordance with the ICNG):	• Works approved via Sydney Metro Out-of-Hours Works Application and any associated approval conditions. • Community notifications issued in accordance with Sydney Metro Community Communications Strategy. • All personnel to be briefed on approved work activities and associated hours. • Quieter and less vibration emitting work methods will be used where feasible and reasonable. • Plant and equipment will be regularly maintained and repaired or replaced if it becomes noisy. • Plan traffic flow, parking and loading/unloading areas to minimise reversing movements within the site. • Traffic control and directional signage will be in place for the safety of workers and the community • Non-tonal reversing alarms will be fitted to all permanent mobile plant. • Delivery personnel and truck drivers to be made aware of approved haulage routes and access in and out of the construction site.
Outline the standard vibration mitigation measures that will be implemented during the proposed OOH work: I.e. Implementation of all 'feasible and reasonable' mitigation measures in accordance with the ICNG):	• Quieter and less vibration emitting work methods will be used where feasible and reasonable.

Table 1: Noise RBLs and NMLs

Skip this section RBLs and NMLs have already been established in other documentation.			
Sensitive Receiver Category	**Estimated RBLs (dBA)**		
Residential	**Daytime OOH**	**Evening OOH**	**Night Time OOH**
Urban (e.g. city hubs, near busy roads, near industrial activity)	**55**	**50**	**45**
Suburban	**45**	**40**	**35**
Quiet, rural or isolated	**40**	**35**	**30**
Non-Residential	**ICNG NMLs (dBA)**		
Industrial facilities	**75** (only applicable when in use)		
Offices or retail	**70** (only applicable when in use)		
Health and educational facilities	**55** (only applicable when in use)		

Table 2: Predicted Noise Level Aspects

Skip this section if predicted noise levels have already been established in other documentation.		
Noise Aspect	**Select the most applicable value for each noise aspect below and enter into Table 3.**	**dBA**
1. Plant / Equipment Noise Level at 10m	Impact sheet piling rig	100
	Hand-held tamper, excavator with hammer, rock-breaker, driven / vibratory piling, concrete saw, diamond saw, air track drill, large dozer, hand-held rail grinder	95

Including non-continuous use reduction (-5dBA) and annoying activity penalty (+5dBA) for as per ICNG (refer to ICNG Appendix B for predicted noise level data) Underline indicates vibratory generating plant / equipment	Jackhammer, rock crusher, angle grinder, pneumatic hammer, medium dozer, tracked loader, impact wrench	90
	Mainline tamper, ballast regulator, dynamic track stabiliser, vibratory roller, mainline rail grinder, ballast train (pour / fill ballast), chainsaw, tub grinder / large mulcher, scraper, grader, super-sucker / vacuum truck, large backhoe / wheeled front-end loader, bored piling, pavement profiler, fixed crane, tracked excavator	85
	Small bulldozer, small excavator, tower crane, truck-mounted crane, forklift, bobcat, skid-steer front-end loader, road truck / truck and dog, dump truck, concrete truck / pump / mixer, compressor, non-vibratory / large pad foot roller, whacker packer / compactor, water cart, pavement laying machine, asphalt truck and sprayer, line marking truck, standard penetration testing, welder, pin puller	80
	Concrete vibrator, cherry-picker scissor lift / elevated work platform / Franna crane, small backhoe, front end loader, fence post driver, electric drill rig, hand held rattle gun, generator (diesel / petrol), spreader	75
	Lighting tower, medium-rigid truck / semi-trailer, welding equipment, tracked excavator, small front end loader	70
	Light vehicle, hand-tools (no impact), small cement mixer, attenuated generator (inside housing), tracked excavator	65
2. Multiple Plant	More than one of the noisiest plant being used simultaneously at roughly the same location	+5
3. Local Screening	Existing screening between site and receiver (buildings, cuttings, canopies, etc.)	- 5
	Temporary screening to be implemented near work site	- 10
	Acoustic shed or enclosure	- 25
4. Distance Attenuation	< 10 metres	0
	10 to 20 metres	- 5
	20 to 35 metres	- 10
	35 to 60 metres	- 15
	60 to 100 metres	- 20
	100 to 180 metres	- 25
	180 to 350 metres	- 30
	350 to 1,000 metres	- 40

Table 3: Predicted Noise Levels and Exceedances of RBLs and/or NMLs (dBA)

Skip this section if Section 3 has been completed in full.

Period (only complete as applicable for each period)	**Noisiest Plant / Equipment** (state the noisiest plant / equipment to be used during each applicable OOH period)	**Receiver Type** (state 'Res' or 'Non-Res' as applicable for closest receiver to noisiest plant / equipment)	Enter the most applicable values from Table 2, then add to determine the Predicted Noise Level				**Predicted Noise Level** (1 + 2 + 3 + 4)	**RBL** (for Res)	**NML** (for Non-Res)	**Exceedance** (Predicted Noise Level minus RBL for Res or NML for Non-Res)
			1. Plant / Equipment Noise Level	**2. Multiple Plant / Equipment**	**3. Local Screening**	**4. Distance Attenuation**				
Daytime OOH *										
Evening OOH *										
Night Time OOH *										

* Refer to OOH period timings under Section 2 of this form.

Table 4: Additional Mitigation Measures (AMM) requiring Consideration for Implementation

OOH Period	AMMs that must be considered for implementation (apply the exceedances from Table 3 to the two OOH period categories below as applicable)			
	<= 10 dBA Exceedance	10 to <= 20 dBA Exceedance	20 to <= 30 dBA Exceedance	> 30 dBA Exceedance
Daytime OOH Period	–	LB	M, LB	M, IB, LB, PC, RO, SN
Evening and Night Time OOH Periods	–	M, LB	M, IB, LB, PC, SN, RO	M, IB, LB, PC, SN, RO, AA*

* AA is only applicable to Night Time OOH periods.

Table 5: List of Additional Mitigation Measures (AMM)

AMM Abbrev.	AMM	AMM Descriptions and Guidance
LB	Letterbox-drop (generic to the project)	A newsletter is generally produced and distributed to the local community via letterbox-drop and the project mailing list. These newsletters provide an overview of current and upcoming works across the project and other topics of interest. The objective is to engage, inform and provide project-specific messages. The geographic extent of letterbox-drops is generally centred on the immediate surrounding community within 200 metres from the works site. For works that are subject to the Sydenham to Bankstown planning approval, these will include an indicative schedule of likely OOH work for at least the upcoming two month period.
M	Monitoring	Where it has been identified that specific construction activities are likely to exceed the relevant Rating Background Levels (RBL) and/or Noise Management Levels (NMLs), monitoring may be conducted at the affected receiver(s) or a nominated representative location (typically the nearest receiver where more than one receiver have been identified). Monitoring can be in the form of either unattended logging or operator attended surveys. The purpose of monitoring is to inform the relevant personnel when the RBL/NML has been exceeded so that additional management measures may be implemented.
IB	Individual Briefings	Individual briefings are used to inform stakeholders about the impacts of high noise activities and mitigation measures that will be implemented. Communications representatives would visit identified stakeholders at least 48 hours ahead of potentially disturbing construction activities. Individual briefings provide affected stakeholders with personalised contact and tailored advice, with the opportunity to comment on the project.
PC	Phone calls (and/or emails)	Phone calls and/or emails (with specific notifications attached) detailing relevant information would be made to identified/affected stakeholders within seven days of proposed work. The objective of the phone calls and/or emails is to support letterbox-drop and specific notifications. Phone calls and/or emails provide affected stakeholders with personalised contact and tailored advice, with the opportunity to provide comments on the proposed work and specific needs.
SN	Specific Notifications (specific to the OOH work)	Specific notifications are letterbox-dropped to identified stakeholders no later than 7 days prior to out of hour construction activities commencing that are likely to exceed the RBLs/NMLs. Specific notifications may be produced by Sydney Trains or by Sydney Metro (or on behalf of Sydney Metro by a contractor as approved by Sydney Metro): - Sydney Trains specific notifications cover all works being undertaken by various parties (including Sydney Metro) during designated rail possession periods. These specific notifications are delivered 14 days prior to works commencing and are delivered to all properties located within 250m of the proposed works. - Sydney Metro specific notifications focus on proposed Sydney Metro works being undertaken outside of designated rail possession periods and are only produced in the absence of any Sydney Trains notifications covering the proposed works. These notifications are delivered 7 days prior to works commencing and are delivered to all properties located within 100m of day works and within 200m of night works. All notifications are emailed to all registered stakeholders on site-specific email distribution lists. For works that are subject to the Sydenham to Bankstown planning approval, these will include indicative information on the type of OOH work, location, duration, expected noise characteristics, expected noise level and likely mitigation and management measures.
RO	Respite Offer	The purpose of a project specific respite offer is to provide residents subjected to lengthy periods of noise and/or vibration impacts respite during OOH periods. Respite offers are offers made to affected receivers to provide a period of either no or limited noise impacts. This can be in the form of stopping or limiting works onsite or offering affected receivers dinner/movie vouchers. The first priority is to implement a period of no or limited noise impacts. If this cannot be achieved, dinner/movie vouchers may be offered on a case-by-case basis.
AA	Alternative Accommodation *(residential only)*	Alternative accommodation options may be provided for residents living in close proximity to construction works that are likely to incur unreasonably high impacts during night time OOH periods. Alternative accommodation will be considered on a case-by-case basis.

Table 6: Consideration of Additional Mitigation Measures (AMM)

Additional Mitigation Measures	Applicable for Consideration? Y / N (refer to Table 4)	To be Implemented? Y / N	Justification / Details For AMMs that are applicable for consideration but not being implemented, justify why the AMM is not being implemented. For AMMs that are being implemented, provide details on how the AMM is being implemented (e.g. which receivers being offered RO, AA, etc.).
LB	Y	Y	Ongoing monthly MP-ISD notifications will continue.
M	Y	Y	Validation monitoring will be completed for the various activities in representative locations.
IB	Y	Y	Affected sensitive receivers have been specifically consulted as part of the Community Agreement negotiations.
PC	Y	Y	Will be used as required.
SN	Y	Y	Will be used as required.
RO *	Y	Y	Specific respites have been agreed as detailed in the Community Agreement.
AA	N	N	

* For OOH work that is subject to the Sydenham to Bankstown approval and RO is required for consideration, include in the 'Justification / Comments' column how community consultation influenced the decision to implement or not implement RO in accordance with Condition E23. If RO is being implemented, include how community consultation influenced the manner in which RO is being implemented.

6. Consideration Against Relevant Vibration Criteria		
Using Table 2, indicate whether any vibratory plant / equipment is planned to be used for the proposed works (Y / N)		Yes
If 'N', skip this section and move to Section 7.		
'People' Criterion	Are the proposed works anticipated to have any perceptible sleep disturbance impacts? (Y / N)	No – Vibratory works not to be undertaken during 'night' periods.
'Structures' Criterion	Are the proposed works anticipated to generate greater than 7.5mm/s vibration impacts on surrounding structures (generally within 25 metres of works)? (Y / N)	Not anticipated. Vibration impacts on surrounding structures will be monitored throughout the works; 50 Martin Place, Bennelong Stormwater Channels.
'Sensitive Equipment' Criterion	Are the proposed works anticipated to impact sensitive equipment located in surrounding non-residential receivers? (Y / N)	No
If 'Y' is answered to ANY of the above criteria AND the impacts affect the same receiver for more than one consecutive occasion (refer to Section 4 for 'occasion' definition), the need to prepare a detailed quantitative assessment will be considered collectively by Sydney Metro, the contractor and the Acoustic Advisor / Environmental Representative (if applicable).		

7. City & Southwest Construction Noise & Vibration Strategy Addendum Mitigation Measures
If the proposed OOH work is part of the City & Southwest project, identify any mitigation measures to be implemented that have arisen from the City & Southwest Construction Noise & Vibration Strategy Addendum.
None required

8. Cumulative Impacts	
Document the relevant details of any other OOH work (Sydney Metro or otherwise) that will impact the same receivers as those being impacted by these proposed works either concurrently or within 3 days of the start or end of these proposed works.	During consultation, stakeholders were advised that when these MP-ISD out of hours works take place, they will be notified ahead of time. TSE and Lendlease work closely together to ensure noise sensitive receivers are aware of both site's activities. TSE and Lendlease share notifications, newsletters, updates and attend stakeholder meetings together to ensure a united front is represented. Due to the distance between the MP-ISD and TSE works, structures between the MP-ISD and TSE sites, nature of the works and positioning of sensitive receivers, cumulative impacts are expected to be negligible.
If other works have been identified in the row above, how have the proposed works been coordinated to ensure appropriate respite is provided?	Yes. Both the MP-ISD and TSE works have aligned the proposed respites as outlined in the community agreement.

9. Community Consultation	
What community consultation has been undertaken already?	An overview of the Community Agreement consultation is included in Appendix 4.
What community consultation is planned to be undertaken?	Community consultation will continue throughout the works.
If drafted already, attach applicable Community Notification as Appendix 4.	

10. Contractor's Signature	
Contractor's Identification of Risk Level: If subject to the Chatswood to Sydenham (C2S) or Sydenham to Bankstown (S2B) planning approval and not subject to an EPL, provide Contractor's Identification of Risk Level (refer to the *City & Southwest OOH Works Strategy / Protocol* for guidance).	Circle: (LOW) or HIGH
Contractor's Signature:	
Name:	Liam Elkington
Title:	Site Engineer
Contact Number:	0419 153 133
Date:	28/02/2020

11. Contractor's Contact Details		
Contractor Personnel	**Name**	**Mobile**
Manager Environment:	Jason Ambler	0415 737 750
Manager Communications:	Leanna Kerins	0447 219 656
Contractor's Representative:	Liam Elkington	0419 153 133
Contractor's 24hr contact person:	Liam Elkington	0419 153 133

C2S / S2B Planning Approval Determination Page

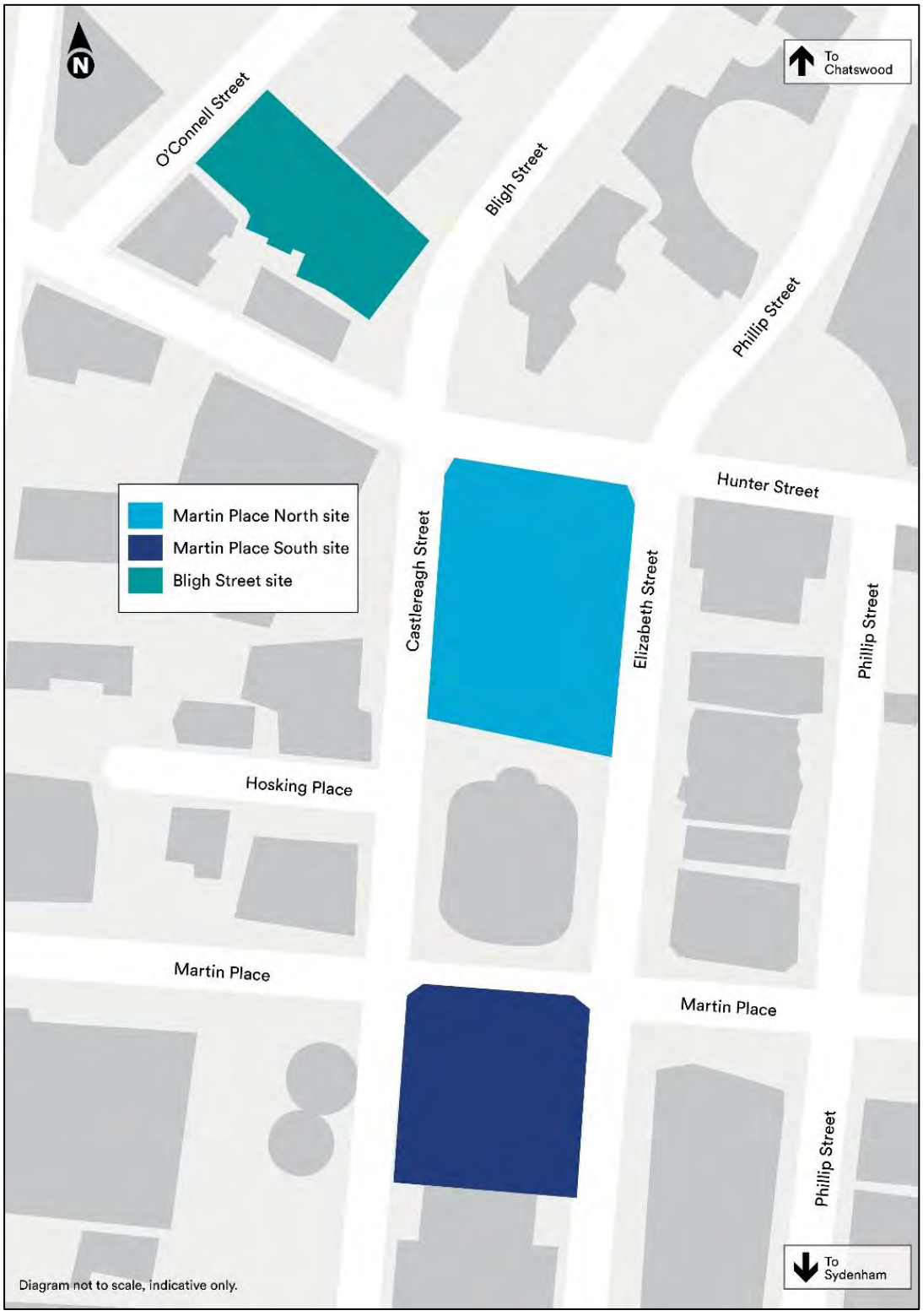
	Step 1 – Endorsement from Sydney Metro Director Public Communications or Contractor's Communications Manager	Step 2 – Risk Identification / Endorsement from the AA under the C2S Planning Approval or from the ER under the S2B Planning Approval	Step 3 – If works are under Sydney Trains EPL, approval from Sydney Metro Director of Planning, Environment and Sustainability. If works are not under an EPL, approval from either the ER or the Secretary of the NSW Department of Planning & Environment
Risk Level:	*N/A*	*If not subject to an EPL, circle Risk Level as:* ***LOW*** *or* ***HIGH*** *If works are HIGH Risk Level and after 9pm, Sydney Metro submits application to the Secretary of the NSW Department of Planning & Environment for approval.*	*N/A*
Signature:	*Approved Road Occupancy Licence / Road Opening Permit (if applicable) must be sighted prior to endorsement.*		
Name:	Dalin Alejandrino	Dave Anderson	Michael Woolley
Role:	Communications Manager	Acoustic Advisor	Environmental Representative
Date:	9/3/2020	17/3/20	17 March 2020
Comments: (including AA / ER Risk Level comments if applicable)		I support extended hours for construction in this precinct and note that it is consistent with the objectives of the Planning Approval.	
Conditions:	Community consultation to continue throughout the work. Mitigation measures as per Table 5.	AA to be advised of verification monitoring activities in advance. Noise monitoring to include construction related traffic at CTA club.	

Generic Determination Page (i.e. not subject to C2S or S2B planning approvals)

	Step 1 – Sydney Metro Director of Project Communications	**Step 2 – Acoustic Advisor** (may be optional depending on planning approval or contract requirements)	**Step 3 – Environmental Representative** (may be optional depending on planning approval or contract requirements)	**Step 4 –Sydney Metro Director of Planning, Environment & Sustainability** (only required if not approved already)
Action:	Endorsement	Circle: Endorsement or Approval	Circle: Endorsement or Approval	Approval
Signature:	*Approved Road Occupancy Licence / Road Opening Permit (if applicable) must be sighted prior to endorsement.*			
Name:				
Date:				
Comments:				
Conditions:				

Appendix 1: Location Map (and/or Environmental Control Map)

Works will be undertaken at the Martin Place North site



Appendix 2: Traffic Management Plan and/or Traffic Control Plan

Works will be completed under the MP-ISD Construction Traffic Management Plan available online at;

https://www.lendlease.com/-/media/llcom/documents/martin-place-metro/20190531/mpisd-construction-traffic-management-plan.pdf.

Appendix 3: Supporting Evidence for Noise & Vibration Impacts (e.g. Construction Noise & Vibration Impact Statement, noise assessment, etc.)

TK422-04 F01 (r2) Martin Place Metro Excavation and Construction CNVIS
TK422-09F02 CNVIS ADD OOHW spoil haulage (r4)
TK422-07F02 Sydney Water Vibration (r2)

Appendix 4: Community Notification

Community Agreement information attached.

Appendix A

Notification – Martin Place Station

March 2020

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new CBD metro railway stations at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central.

In 2024, Sydney will have 31 metro railway stations and a 66 km standalone metro railway system. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

John Holland CPB Ghella (JHCPBG) is building the 15.5 kilometre long twin railway tunnels from Chatswood to Sydenham and excavating six new Sydney Metro stations.

Macquarie Group will deliver the new Sydney Metro Martin Place integrated station development and has appointed Lendlease as its design and construction contractor.

Extended hours at the Martin Place North site

Following consultation additional working hours have been approved for the Martin Place North site. Standard workings hours are Monday to Friday, 7am to 6pm and Saturday 8am to 1pm. **Work hours will be extended to 5am to 10pm, Monday to Saturday, from Saturday 14 March to Thursday 31 December 2020** to take advantage of times when traffic and pedestrian volumes are lower. The extended working hours will allow the project to progress as quick as possible and reduce the overall impact on the community.

During these additional working hours, the work will not involve high noise activities and workers will keep noise to a minimum.

As we are now loading out excavated material through the underground Bligh Street site, this will help reduced noise impacts to nearby stakeholders.

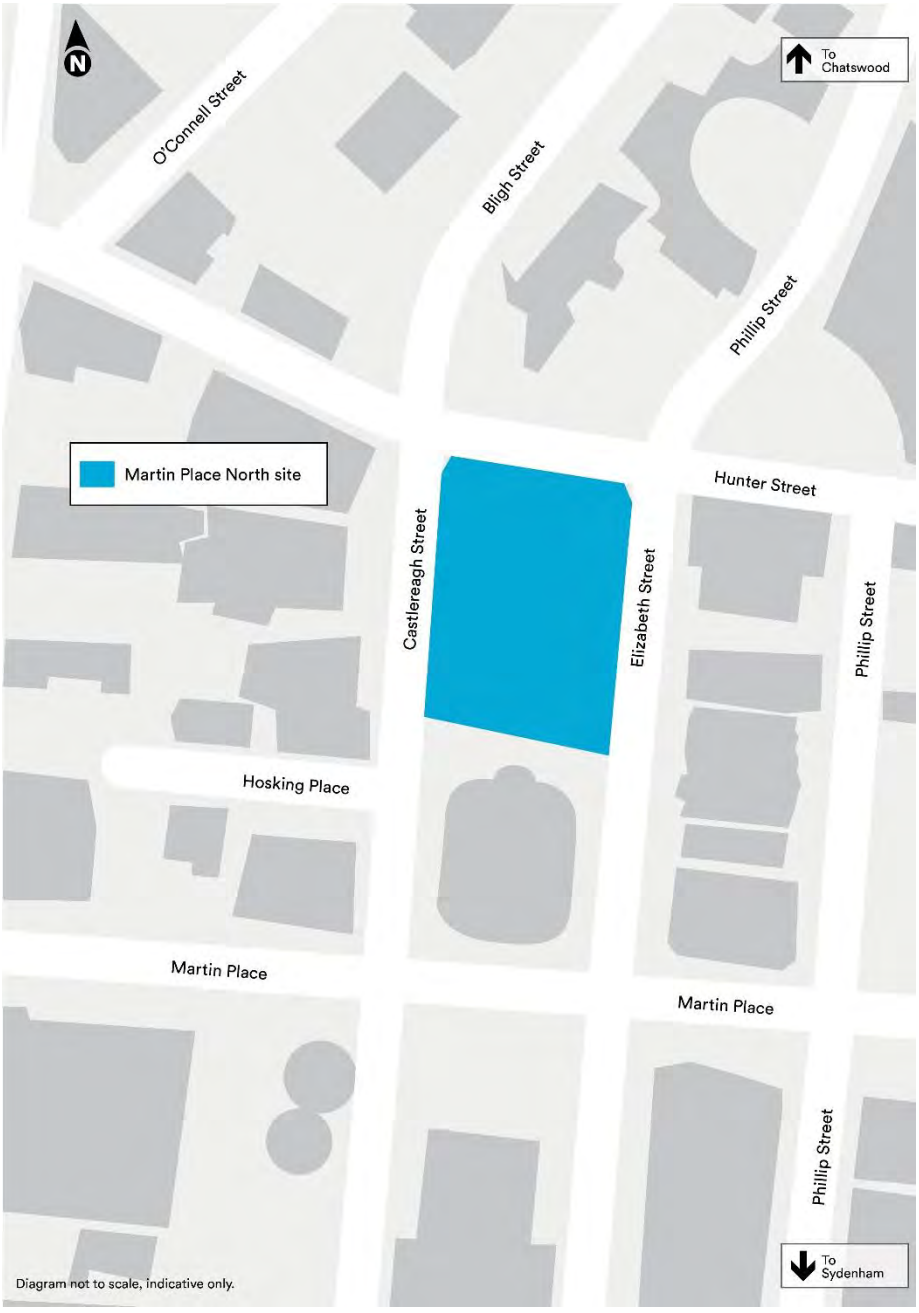
What to expect

- Up to 24 hours a day, seven days a week haulage and delivery of spoil and materials, station and tunnel fit out, and tunnelling and associated support activities.
- Trucks will be entering and leaving site.
- Use of the underground Bligh Street site.
- Site, plant and equipment set up.
- Hoist operations.
- Concrete pours.
- Tower crane and hoist operations.
- General construction work.
- Use of mobile lighting, powered by a generator, will be directed away from residential properties where possible.
- Traffic control and directional signage will be in place for the safety of workers and the community.
- Non-total reversing beepers will be used, and workers will be instructed to keep noise to a minimum.
- Access to buildings and driveways will be maintained at all times.

Thank you for your cooperation and understanding while we complete this essential work. If you have any questions about the Martin Place integrated station development, please contact Natalie Dickson or Leanna Kerins on **1800 171 386** (24-hour community information line) or email MartinPlaceMetro@transport.nsw.gov.au

For more information about work being carried out by JHCPBG at the Bligh Street tunnelling support site or Martin Place South excavation work, please contact Glenda Hewitt or Natasha Lumley on **1800 171 386** or tunnels@transport.nsw.gov.au

Martin Place North site



Contact us

1800 171 386 Community information line open 24 hours

MartinPlaceMetro@transport.nsw.gov.au

Sydney Metro City & Southwest, PO Box K659, Haymarket NSW 1240

If you need an interpreter, contact TIS National on **131 450** and ask them to call **1800 171 386**

City & Southwest

Project update

October 2020

Sydney Metro is Australia's biggest public transport project.

Services started in May 2019 in the city's North West with a train every four minutes in the peak. Metro rail will be extended into the CBD and beyond to Bankstown in 2024. There will be new CBD metro railway stations at Martin Place, Pitt Street and Barangaroo and new metro platforms at Central.

In 2024, Sydney will have 31 metro railway stations and a 66 kilometre standalone metro railway system. There will be ultimate capacity for a metro train every two minutes in each direction under the Sydney city centre.

Macquarie Group is delivering the new Sydney Metro Martin Place integrated station development and has appointed Lendlease as its design and construction contractor.

Extended hours at the Martin Place North, South and Bligh Street sites

Lendlease will take possession of the Martin Place South site at the start of November and Bligh Street site in December. Following consultation, additional work hours have been approved for the Martin Place North, South and Bligh Street sites to take advantage of times when traffic and pedestrian volumes are lower. The extended hours will assist in reducing the overall program and reduce the impact on the community.

Standard work hours are Monday to Friday, 7am to 6pm and Saturday 8am to 1pm.

From Monday 2 November 2020 to 31 December 2023 extended work hours are:

- Martin Place North and Bligh Street sites: Monday to Saturday, 5am to 10pm
- Martin Place South site: Monday to Saturday, 6am to 10pm.

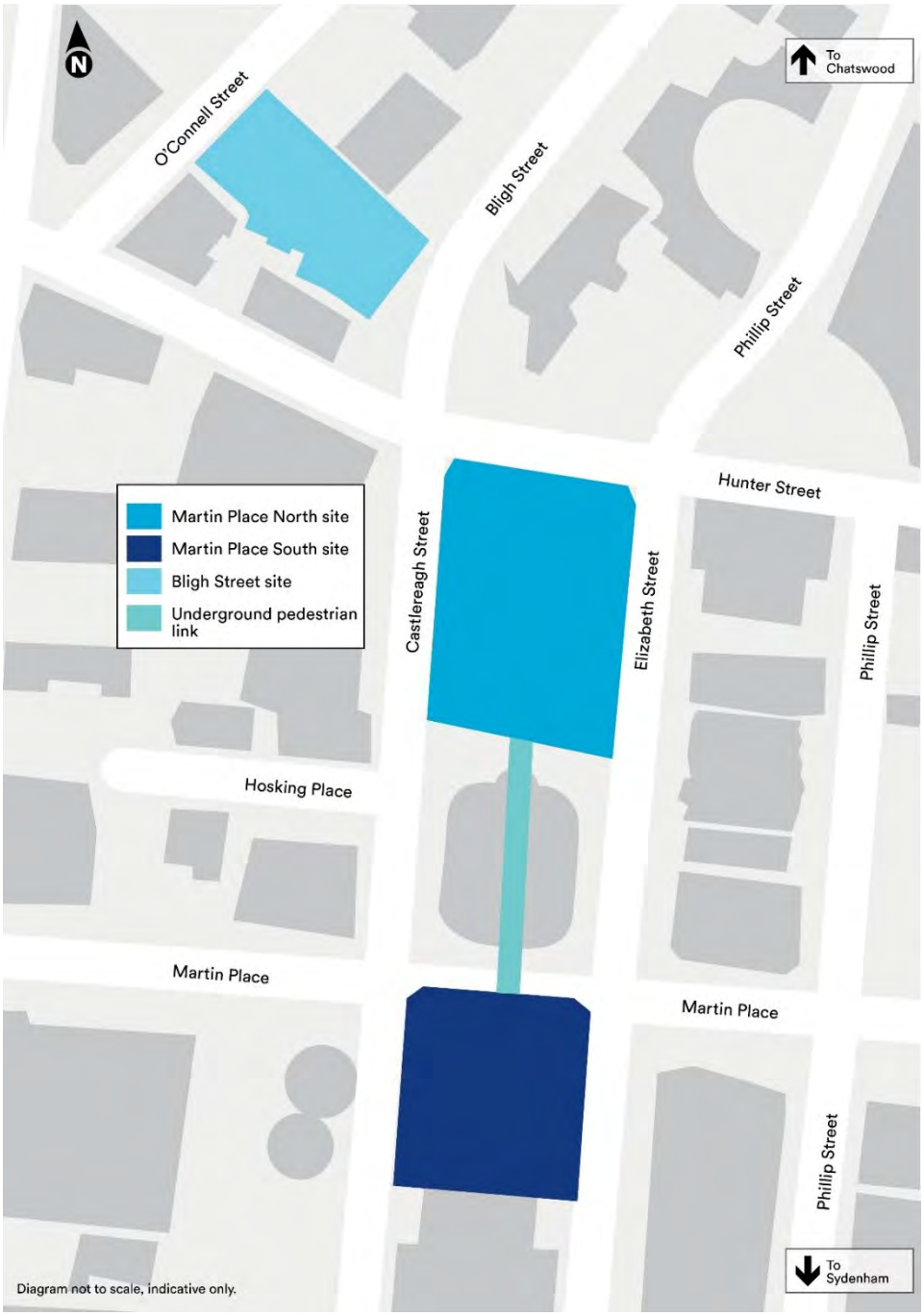
During these additional work hours, the work will not involve high noise activities and workers will keep noise to a minimum.

What to expect

- Haulage and delivery of spoil and materials, station and tunnel fit out, and tunnelling and associated support activities will take place up to 24 hours a day, seven days a week.
- Trucks will be entering and exiting the North site through Castlereagh Street and Elizabeth Street.
- Trucks will be entering and exiting the South site through Castlereagh Street.
- Trucks will be entering and exiting Bligh Street site through O'Connell Street.
- Work zones will be in operation on Castlereagh and Elizabeth streets.
- General construction work will include site, plant and equipment set up, tower crane and hoist operations, and concrete pours.
- The following 24-hour activities will take place including dewatering, ventilation, hoist maintenance, material deliveries, station and tunnel fit out, and service installation and commissioning.
- Use of mobile lighting, powered by a generator, will be directed away from residential properties where possible.
- Traffic control and directional signage will be in place for the safety of workers and the community.
- Non-total reversing beepers will be used, and workers will be instructed to keep noise to a minimum.
- Access to buildings and driveways will be maintained at all times.

Thank you for your cooperation and understanding while we complete this essential work. If you have any questions about the Martin Place integrated station development or the Martin Place North and South sites, please contact Natalie Dickson or Leanna Kerins on **1800 171 386** (24-hour community information line) or email martinplacemetro@transport.nsw.gov.au

Martin Place sites



1800 171 386 Community information line open 24 hours

martinplacemetro@transport.nsw.gov.au

Sydney Metro City & Southwest, PO Box K659, Haymarket NSW 1240

If you need an interpreter, contact TIS National on **131 450** and ask them to call **1800 171 386**

Appendix H

Line-wide Works Brief

Traffic Management Plan – Bligh Street Site Access (supplementary to Principal Contractor's CTMP)

Line-wide Works Contract Sydney Metro City & Southwest

Project number:	C600
Document number:	SMCSWLWC-SYC-SMP-TF-BRN-005743
Revision date:	20 November 2020
Revision:	B

Document Approval

Rev.	Date	Prepared by	Reviewed by	Recommended by	Approved by	Remarks
A	16 Nov 2020	Mong Sim	Adam Binning	Jennan Becirevic	Scott Hunter	Initial submittal.
B	20 Nov 2020	Mong Sim	Adam Binning	Jennan Becirevic	Scott Hunter	Minor revision.
Signature:						

Details of Revision Amendments

Document Control

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

Amendments

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

Revision Details

Revision	Details
A	Issued for stakeholder review.
B	Rephrasing to Section 1.1 and 2.1.

Table of Contents

1. Summary – Bligh Street Site Access

1.1. Access and Deliveries (Line-Wide Scope)

This briefing note addresses the logistics requirement to enter into Martin Place tunnel section from the Bligh Street compound via O'Connell Street. Logistics requirement to deliver concrete, tunnel fittings and various machineries (EWPs, small cranes) into the tunnel. This briefing note will supplement the Martin Place principal contractor's "Sydney Metro Martin Place Construction Traffic Management Plan".

Access from O'Connell Street into the tunnels via the Bligh Street compound is necessary in the Line-Wide scope to complete the tracks and tunnels fittings work. Access into the Martin Place tunnel site via the main Martin Place site gate off Castlereagh Street or Elizabeth Street is not possible due to the on-going work for the station.

The Bligh Street site is located at O'Connell St near Hunter Street intersection.

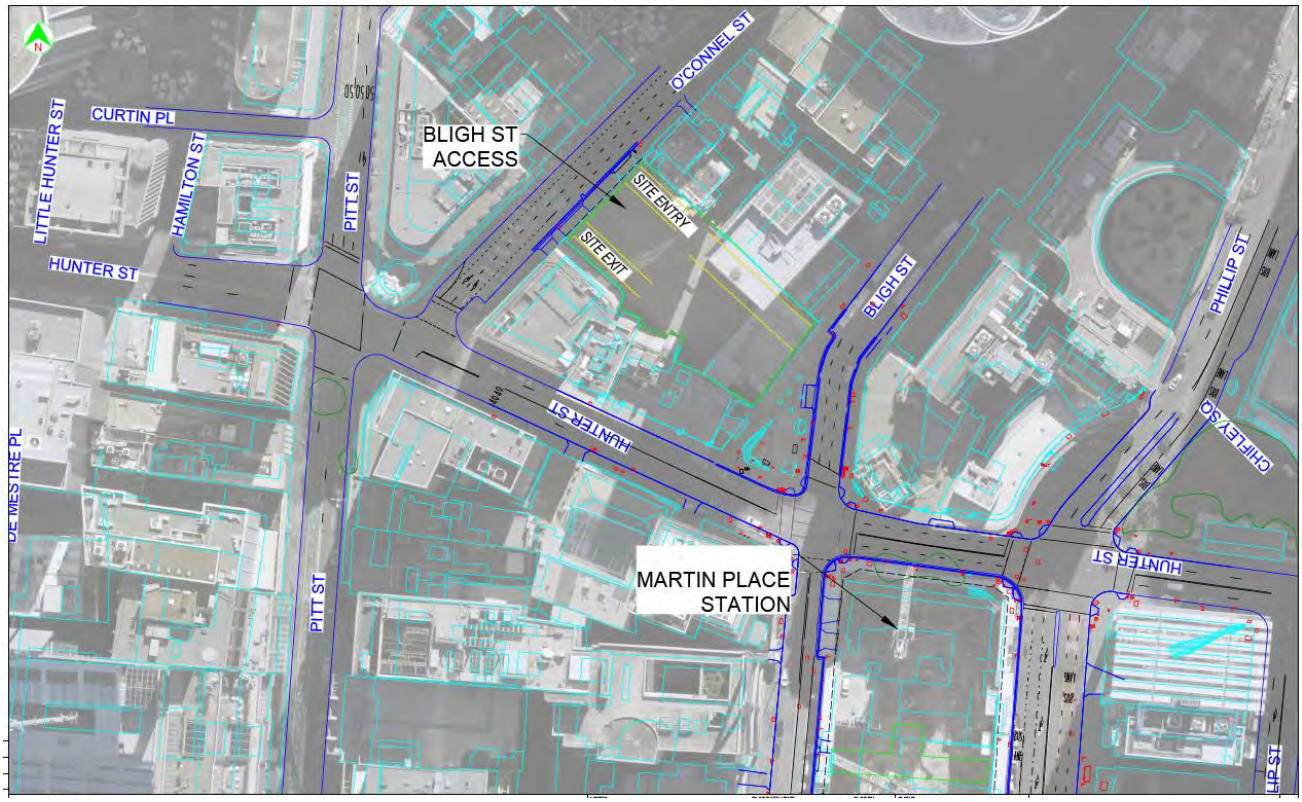


Figure 1 – Bligh St. site locality map (aerial photo is taken in August 2020). Refer to Appendix A for attachment.

Delivery routes to the site is via the approved routes shown below.

Figure 2. Delivery routes to the Bligh Street compound. Refer to Appendix B for larger print.

Figure 3. Bligh Street site looking from O'Connell St.

All deliveries to the Bligh Street compound will be coordinated 48 hours in advance in accordance to the principal contractor's nominated delivery management program – Veyor or similar per MP Integrated Station Development Construction Interface Management Plan Section 8.4).

Line-Wide will be responsible for all necessary permits (TCP, ROLs, council permits where applicable) and compliance including any audits or non-conformance reports.

Deliveries are generally consisting of ready mix concrete and tunnel fittings component (sleepers, M&E equipment) up to 12.5m long vehicle. Oversized load may require lane closure at O'Connell Street for unloading and these are generally handled during out of hours. Line-Wide will be managing all out of hours deliveries.

2. Traffic and Transport Management

2.1 Traffic Impact

Deliveries are not expected to cause major disruption to the area. Trucks under 12.5m are able to turn left straight into the entry gate similar to any turning movement into a driveway. Movements are low and insignificant to cause any impact to the road network. There shall be no queing or truck mashalling for the work.

2.2 Business / Resident Access

There are no impacted businesses nor residents access during the work.

2.3 Bus Operations

The work will not be impacting the operations of the bus.

2.4 Emergency Services

Emergency services are not impacted from the works as there are no road closures in place during the work.

2.5 Pedestrian

Trucks are to giveway to pedestrian if there are pedestrians near the gates. There are existing flashing lights and signs on site cautioning pedestrians and other traffic to take extra care before the driveways. Traffic controllers are available on each gate to control pedestrians for truck movements.

2.6 Parking

Parking is not impacted from the work. The work area is with in the site driveways and existing loading zone.

2.7 Cyclist

No impact cyclist.

3. Stakeholder Key Contacts

Systems Connect and key stakeholders contacts below for the overall integration of the CTMP.

Name	Role	Contact Details
Carl Mella	Transport NSW (Sydney Roads) – Integration Leader	0429 505 970
Jake Coles	Sydney Coordination Office - Operations Manager – CBD	0466 454 819
Stephen Brown	Sydney Coordination Office - Precinct Project Manager	0457 809 028
Phil Brogan / Ken Hind	Sydney Metro – Traffic Advisor	0401 719 632 0416 797 029
Josh Faull	City of Sydney Traffic & Transport Team Leader	0448 488 384
Matt Billings	Systems Connect – Environment Manager	0428 781 599
Jennan Becirevic	Systems Connect – Project Manager	0408 692 480
Craig Godwin	Systems Connect – Safety Manager	0458 498 107
Svetlana Paunovic	Systems Connect – Community Manager	0438 540 245
John McKosker	Systems Connect – Superintendent	0409 803 110
Mong Sim	Systems Connect – Traffic Engineer	0448 378 883
Adam Binning	Systems Connect – Sr. Traffic Engineer	0407 208 827

Name	Role	Contact Details
Cameron Savage	Martin Place ISD Sr. Project Engineer	0412 592 270

4. Communications and Community Strategy

Systems Connect (Line-Wide) will meet the reasonable needs and desires of the community for information on any changed traffic conditions, cyclist and pedestrian impacts and property access arrangement. Systems Connect will ensure that the public and other key stakeholders (City of Sydney, TfNSW and Sydney Metro) are informed of planned traffic arrangements, including any activities which may result in delays.

Communications, consultation and the dissemination of information associated with traffic and access will be undertaken as outlined in this section.

The aim of consultation and broad communication on traffic and access matters is to:

- Facilitate community feedback regarding traffic issues
- Recommend alternative and appropriate travel patterns during periods of change
- Manage traffic impacts to protect affected residential and business amenity
- Provide timely, accurate and comprehensive traffic information using all available media to inform road users and the community of the project's traffic impact mitigation measures.

Ongoing consultation with stakeholders will ensure that effective traffic management measures are developed and implemented to minimise disruption and inconvenience.

Systems Connect (Line-Wide) will coordinate engagement with Sydney Metro, OSD Principal Contractor and the members of the TTLG to enable the local community and other stakeholders to receive timely and accurate information associated traffic and transport issues.

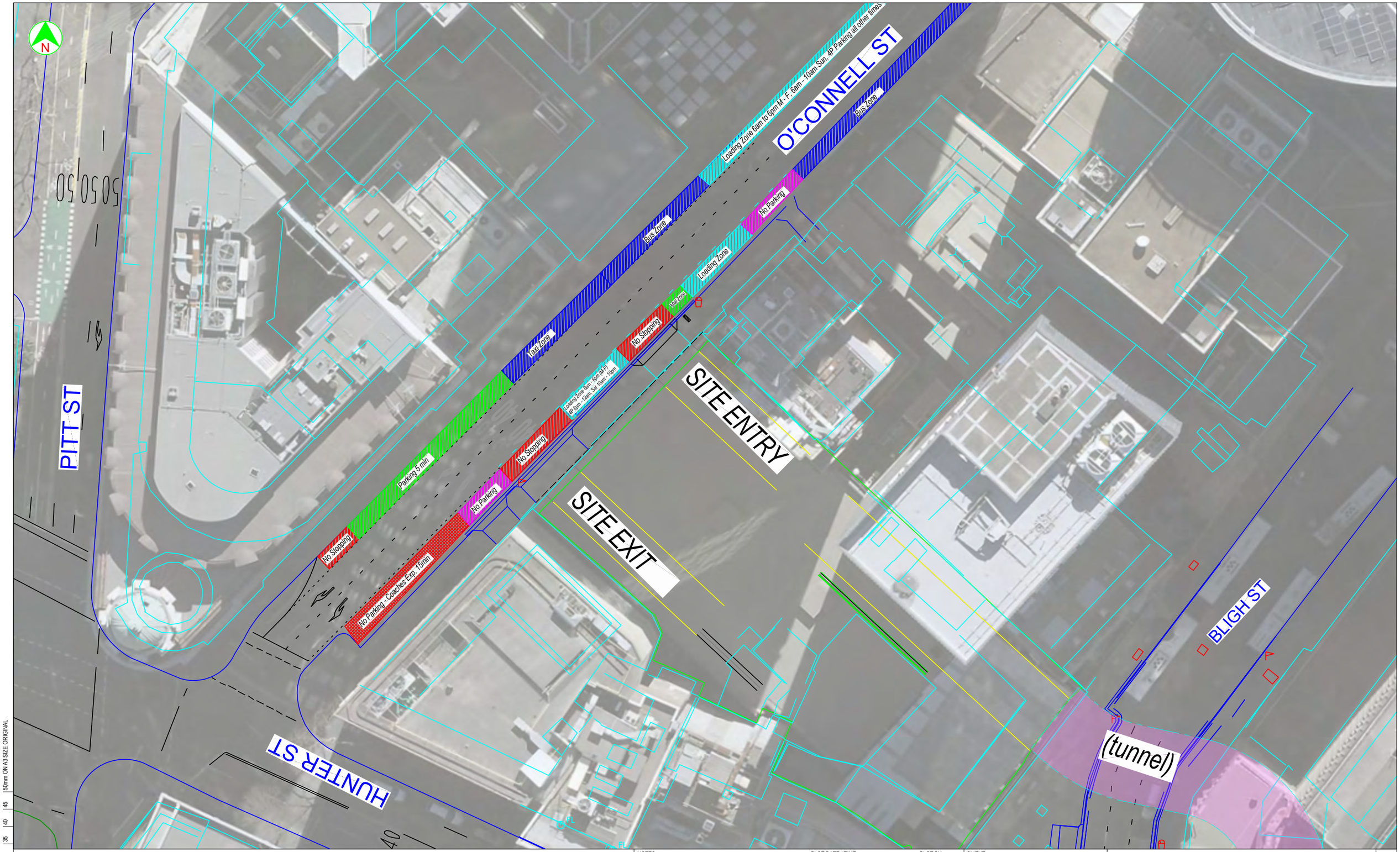
Tool	Purpose	Frequency
Traffic alert emails	Email alerts to Sydney Roads , Transport Management Centre, Council, transport operators and emergency services to advise of major traffic changes including road or lane closures and detours, incidents or undue congestion	5 business days prior to changes if applicable As soon as practicable following incidents or undue congestion
Advertisements	To inform of significant traffic changes, detours and traffic disruptions as required to comply with approvals; in local newspapers, radio and/or project website	5 business days prior to changes
Letterbox notifications	Notification letters to inform local residents and businesses potentially affected by planned traffic changes	5 business days prior to changes
Community emails	To inform and update the community of project progress, milestones, activities planned for the following month, current and upcoming traffic changes	As required
Community information line	Information to the project details with message service via an 1800 number	As required
TfNSW Sydney Metro website	Systems Connect will provide information in electronic format suitable to be uploaded onto the TfNSW Sydney Metro website, including copies of advertisements, traffic alerts, notification letters and other public material related to the works	As required

Tool	Purpose	Frequency
Systems Connect website	Information about the site construction activities will be placed on the Systems Connect website including information about traffic changes, and executive summaries of publicly available reports relating to the project activities.	As required

The table above provides a guide to inform the community of changes to road and traffic conditions. It also provides a summary of the purpose and frequency of each method of communication.

PART C – Appendices

Appendix A. Current Site Conditions



THIS DRAWING MAY BE REPRINTED IN COLOUR AND MAY BE INCOMPLETE IF PLOTTED 50mm ON A3 SIZE ORIGINAL

LEGEND

- Loading Zone and Parking after business hours
- No Parking
- No Stopping
- Taxi / Bus Zone
- Parking

REVISION DESC.	REV	DATE	APPROVAL

SCALES ON A3 SIZE DRAWING

CO-ORDINATE SYSTEM: MGA ZONE 56

HEIGHT DATUM: AHD

NOTES

DRAWINGS / DESIGN PREPARED BY

PLOT DATE / TIME

PLOT BY: M SIM

TITLE	NAME	DATE
DRAWN	M.SIM	3/11/20
DRG CHECK	M.SIM	3/11/20
DESIGN		
DESIGN CHECK		
TRAFFIC MNGR		

CLIENT

PREPARED FOR: Systems Connect

Existing signs at O'Connell Street

A3

SHEET

ISSUE STATUS: FOR INFORMATION

SHEET No.: 1 of 1

ISSUE

Appendix B. TCP – Truck route and TCP

					NOTES	PLOT DATE / TIME	PLOT BY M SIM		CLIENT	A3
LEGEND	REVISION DESC.	REV	DATE	APPROVAL	SCALES ON A3 SIZE DRAWING	DRAWINGS / DESIGN PREPARED BY	TITLE	NAME	DATE	Delivery Route to Bligh Street Compound
Inbound Route							DRAWN	M.SIM	4/11/20	SHEET
Outbound Route							DRG CHECK	M.SIM	4/11/20	
							DESIGN			
							DESIGN CHECK			PREPARED FOR
							TRAFFIC MNGR			Systems Connect
					CO-ORDINATE SYSTEM MGA ZONE 56	HEIGHT DATUM AHD				ISSUE STATUS FOR INFORMATION / SHEET No. 1 of 1 / ISSUE

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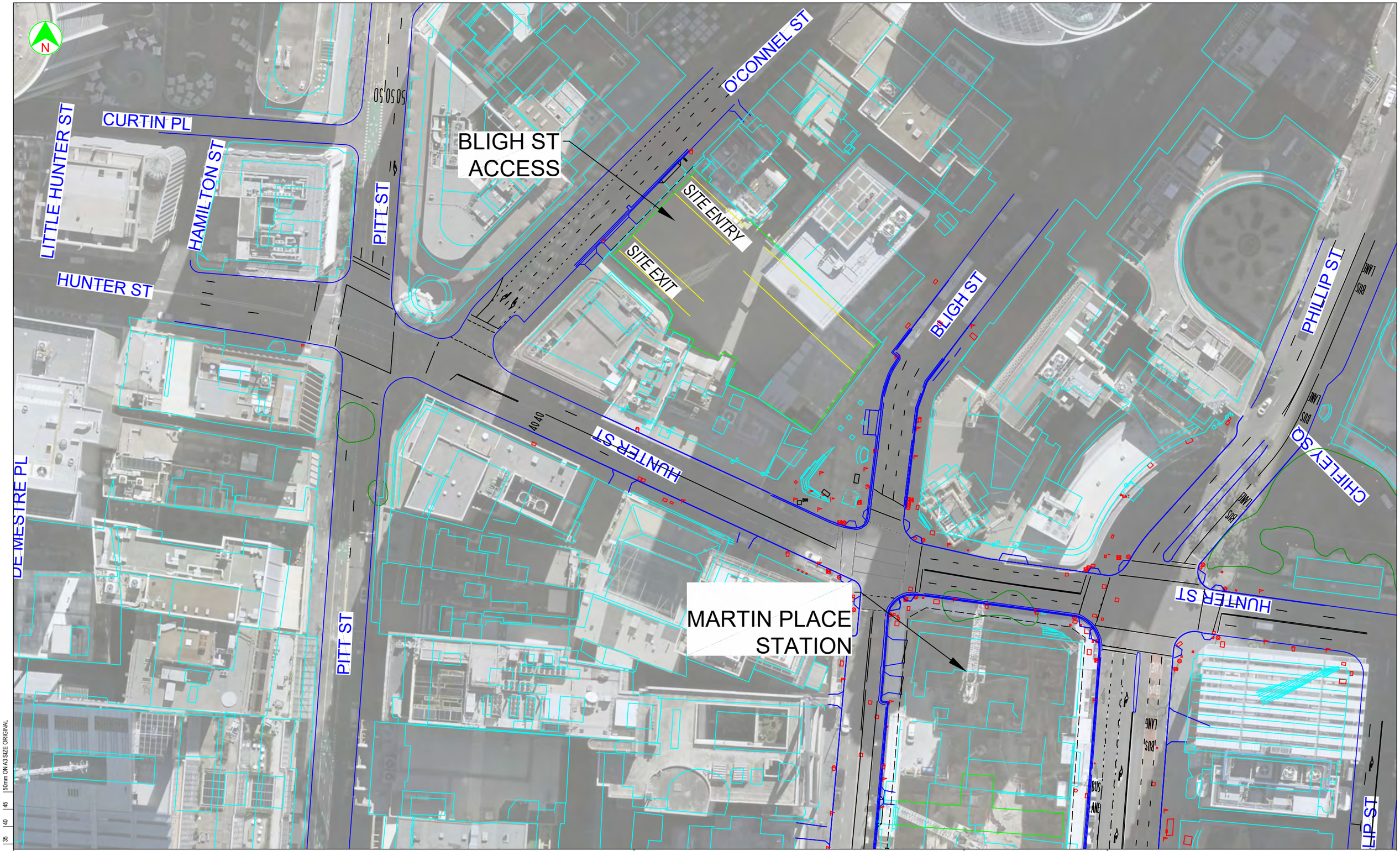


NOTES

PLOT DATE / TIME

PLOT BY: M SIM

CLIENT

A3

LEGEND	REVISION DESC.	REV	DATE	APPROVAL

SCALES ON A3 SIZE DRAWING

CO-ORDINATE SYSTEM: MGA ZONE 56

HEIGHT DATUM: AHD

DRAWINGS / DESIGN PREPARED BY

TITLE	NAME	DATE
DRAWN	M.SIM	3/11/20
DRG CHECK	M.SIM	3/11/20
DESIGN		
DESIGN CHECK		
TRAFFIC MNGR		

PREPARED FOR: Systems Connect

Bligh Street Access - locality map

SHEET

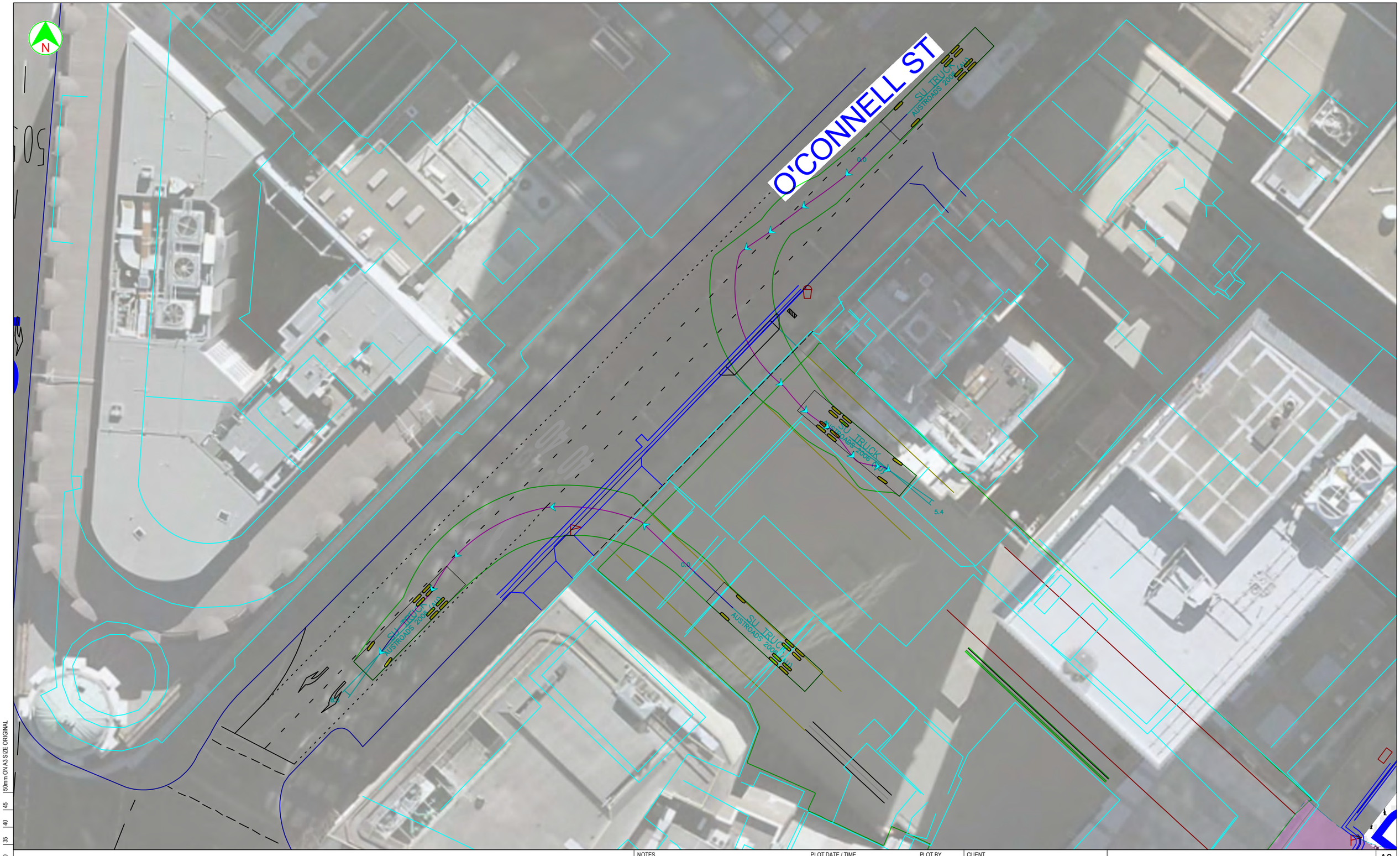
ISSUE STATUS: FOR INFORMATION

SHEET No.: 1 of 1

ISSUE

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

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

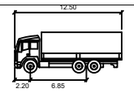


THIS DRAWING MAY BE PREPARED IN COLOUR AND MAY BE INCOMPLETE IF COPIED

50mm ON A3 SIZE ORIGINAL

0 5 10 15 20 25 30 35 40 45 50

LEGEND	REVISION DESC.	REV	DATE	APPROVAL



SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

SCALES ON A3 SIZE DRAWING

CO-ORDINATE SYSTEM: MGA ZONE 56

HEIGHT DATUM: AHD

NOTES

DRAWINGS / DESIGN PREPARED BY

PLOT DATE / TIME

PLOT BY: M SIM

	TITLE	NAME	DATE
DRAWN		M.SIM	16/11/20
DRG CHECK		M.SIM	16/11/20
DESIGN			
DESIGN CHECK			
TRAFFIC MNGR			

CLIENT

PREPARED FOR: Systems Connect

A3

Turning Path - 12.5m vehicle

SHEET

ISSUE STATUS	SHEET No.	ISSUE
FOR INFORMATION	1 of 1	

O'Connell St, Sydney

Systems Connect

PROJECT/SITE OVERVIEW

Project/Site Description:	**Unloading Equipment**
Location of Works:	**O'Connell St, Sydney**
Anticipated Commencement Date:	**TBA**
Estimated Duration of Works:	**TBA**
Working Hours:	**TBA**

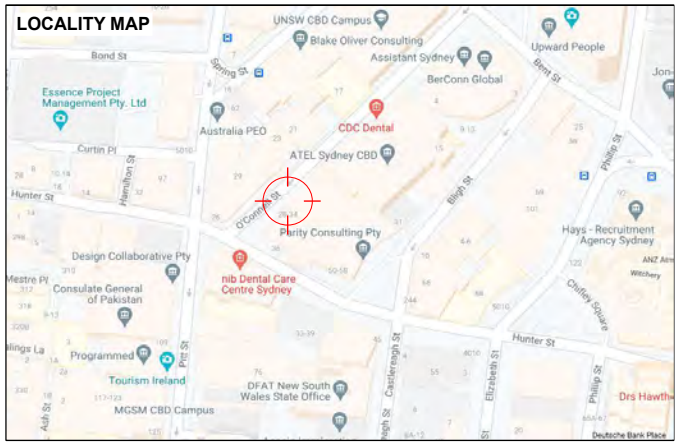
CLIENT DETAILS

Client Name:	**Systems Connect**
Client Contact Name:	**Mong Sim**
Client Contact Number:	**0448 378 883**
PO/Contract Number:	
Site Contact:	
Site Contact Number:	

SCOPE OF WORKS

This Traffic Management Plan has been developed to allow the client to conduct works at the above location and to display a commitment to Traffic and Pedestrian Management, Reporting, and Reviewing. These works will include, but not limited to:

UNOADING EQUIPMENT



THIS DOCUMENT HAS BEEN DEVELOPED IN ACCORDANCE WITH THE INFORMATION SUPPLIED BY OUR CLIENT: SYSTEMS CONNECT
THE SIGNING TMD IS NOT RESPONSIBLE FOR ANY OMISSIONS OR ERRORS IN THE BASE INFORMATION SUPPLIED BY THE ABOVE MENTIONED "CLIENT" WHILE DUE CARE HAS BEEN TAKEN IN THE PREPARATION OF THIS DOCUMENT, TRAFFIC AND ON SITE CONDITIONS AT THE TIME OF THE WORKS MAY VARY FROM THOSE ESTABLISHED WITHIN THIS DOCUMENT.
THE PRINCIPAL CONTRACTOR IS RESPONSIBLE FOR UNDERTAKING OF AN EVALUATION OF THE SITE AND TRAFFIC CONDITIONS AGAINST THOSE OUTLINED WITHIN THE TMP AND IN THE TGS's AS APPROPRIATE. WHERE CONDITIONS VARY FROM THOSE DOCUMENTED, ADDITIONAL INPUT FROM A TMD (TRAFFIC MANAGEMENT DESIGNER) SHOULD BE SOUGHT.

Evolution Traffic Management
51 Heathcote Road, Moorebank
New South Wales, 2170
Ph: 1300 880 481.
RMS REGISTRATION CATAGORY G

evolution TRAFFIC MANAGEMENT

APPROVED BY TM DESIGNER:
KYLENE JONES
0052043634 PWZTMP-RIICWD503D

EVOLUTION JOB NUMBER:
440395257

REV# 00

IMPLEMENTATION INSTRUCTIONS

Before work commences, signs and devices at the approaches to and within the work area SHALL be implemented in accordance with the approved Traffic Guidance Schemes and the Traffic Control Companies Safe Work Method Statements, in the following sequence:

1) Traffic Controllers implementing signage are to ensure all signage is available for implementation prior to shift.
2) Signs & devices in side streets leading into the works are to be implemented first. Where required, detours are to be in place before commencing any closures.
3) All signage on arterial and main road alignments to be implemented with the flow of traffic.
4) Signs are to be implemented in all non affected lane(s) first and all conflicting signs are to be covered.
5) Signs in the affected lane to be implemented; Taper, Speed Reduction, Safety buffer (if applicable), and Delineation to be implemented with the traffic flow. Conflicting signs to be covered in process.
6) Ensure signs & devices are correct before works commence.
7) Once works have finished, Traffic Control are to pick up delineation and taper's in reverse. Then pick up advance warning signs with the flow of traffic.

RECORDING & MONITORING

Regular inspections of traffic control devices SHALL be carried out a minimum of twice daily and recorded in The Daily Traffic Diary. These records SHALL be available for inspection during the project. These records will be held on site by The Client. Details of all changes in traffic movements shall be recorded and maintained throughout the construction period and submitted within 7 days from the date of practical completion. In the event of a traffic related incident with in the site, The Client SHALL immediately notify the principal's representative, the police, and any necessary emergency services.

PEDESTRIAN & CYCLIST MANAGEMENT

All pedestrian & cyclist control measures, for the duration of the construction works will be monitored as required for effectiveness & improvements. Appropriate warning signage and directional signage will be in place and monitored throughout the works as per the provided TGS's attached to this document. Where current documented control measures are ineffective, A TMD qualified person(s) should be contacted to suggest changes.

GENERAL NOTES

- The Designer preparing this plan has ensured it complies with the RMS TCAWS (Version 5, 27 July 2018). Any unapproved variations to the design will negate the Designers liability. Variations and amendments to this TGS are to be recorded on this TGS with the changes noted, along with the date and time of the change and the accreditation details of the TMD making the change.
- The attached TGS's SHALL be read in conjunction with this notes page and the associated risk assessments and an on site risk assessment SHALL be performed before any implementation works takes place.
- It is the Clients responsibility to ensure they have a copy of the permits (in date) for the closure being implemented.
- This TGS SHALL only be implemented by a competent person(s) with a current Traffic Management Implementation (TMI) qualification.
- A toolbox talk is to take place before works commencing.
- Work Site Safety Traffic Management Checklist to be filled out prior to implementation, and upon completion.
- Traffic Controllers to identify and make note of escape routes prior to commencement of works.
- Hand held UHF radios are to be utilised where required to communicate between traffic control & site vehicles.
- Principal Contractor to notify local Emergency Services in advance of commencing works.
- Traffic Controller's to ensure ROLS has been activated prior to each shift via the TMC website or Mobile App. ROL must also be deactivated once shift has ended.
- Advance signs SHALL be mounted at a minimum height of 200mm displayed as prominently as possible by selecting the longitudinal location of the sign for best sight distance for approaching traffic. Signs continuously required for works which will be in progress for periods longer than 2 weeks should be erected in a permanent manner, e.g. on posts sunk into the ground, and duplicated on the right side of the road.
- Traffic volumes should be monitored throughout the implementation of the TGS(s). In the event queue lengths become unmanageable, works should cease if possible and traffic cleared before recommencing.

SITE SPECIFIC NOTES

(xx) *Where this symbol appears, please refer back to the coinciding note below.*

01 - Workman symbolics SHALL be removed or covered when workers are no longer visible to traffic. (TCAWS Ver.5, 5.2.3)
02 - Speed of the traffic SHALL be reduced to 40km/h when workers on foot will be within 1.2m of traffic. (TCAWS Ver.5, 3.6.4)
03 - Traffic Controller Ahead/Prepare to Stop sign SHALL be used when a traffic controller is attending traffic. The sign SHALL NOT be displayed when the traffic controller is not in attendance controlling traffic. (TCAWS Ver.5, 8.1.4)
04 - Access to local businesses and driveways will be maintained during works. Unless otherwise shown on the TGS(s) and site specific notes. It is the Principal Contractors responsibility to seek permission prior to blocking public and private access.
05 - Access to bus stops to be maintained where possible. If not possible, the client is to consult and gain written approval from Translink.
06 - Bus stop relocated. Buses to be advised.
07 - 700mm traffic cones will be positioned at a maximum 4m apart. (TCAWS V5 Clause 5.2.2 - Table 5.1)
08 - At the start of a roadwork speed zone the Roadwork Speed Limit (see R4 212) signs shall be erected on both sides of the carriageway. (TCAWS Ver.5, 8.2.5)
09 - At an active traffic control position, under conditions of heavy traffic or lengthy delays, or a combination of the two, long queues may form. Depending on speed of traffic and sight distance to the end of a queue, additional advance warning may be required to avoid end-of-queue collisions. (TCAWS Ver.5, 3.5.7)
10 - Existing 3.0m lane width shall be maintained. A clearance area between the edge of traffic lane and delineation SHALL be provided. Measurements for this clearance are outlined under AGTTM03 CL 2.5.8 Table 2.5.
11 - Pedestrians to be escorted through the work area when safe, as required.
12 - Adjustments to the end of temporary speeds shall be made when school zones are in operation (0800-0930, 1430-1600 school days). Outside the school zone speeds will be reinstated once the traffic has passed the work area.
13 - Where practicable, signs SHALL be erected on both sides of the roadway on multilane divided or one-way roads where the volume is 10000 vpd or greater. (MUTCD 2.5.2)

LEGEND:

	ACCREDITED TRAFFIC CONTROLLER with Approved Stop / Slow Bat
	TRAFFIC CONTROL VEHICLE with Illuminated Flashing Arrowboard
	MANHOLE, ACCESS, POWER POLE as advised by Client
	LATERAL HAZARD MARKER either T5-5 or T5-4 (Horizontal)
	TRAFFIC CONES per TCAWS V5 Clause 3.3.3
	PROPOSED WORK AREA as advised by Client
	PROPOSED LANE CLOSURE per TCAWS requirements / Client request
	EXCLUSION ZONE per TCAWS requirements
	EXISTING W BARRIER / GUARD RAIL

DESKTOP RISK ASSESSMENT

LOCATION OF WORKS: UNLOADING EQUIPMENT

DATE: 4/11/2020

RISK RATING:	4 = (VERY HIGH)	3 = (HIGH)	2 = (MEDIUM)	1 = (LOW)

IDENTIFIED HAZARDS/RISKS:

1 - Clearance to traffic.
2 - Presence of workers at worksite.
3 - Cyclist / pedestrians through worksites.
4 - Poor observance by motorists of directions / instructions.
5 - High volume of traffic through worksites (>10,000 VPD)

ACTIONS TAKEN :

1,2,3 - Placement and duplication of advance warning signs.
1,2,3 - Separation of works from road users through delineation (cones).
3 - Placement of advance warning signs for Cyclist / pedestrians.
1,4,5 - Implementation of lane closure.
1,2,4 - Speed reduction to 40 kph.

CONTROL LEVEL REQUIRED:	1 - ELIMINATE	2 - SUBTITUTE	3 - ISOLATE	4 - ENGINEER	5 - ADMIN	6 - PPE

FURTHER ACTION REQUIRED:

Pedestrians to be escorted through the work area when safe, as required.

RESIDUAL RISK:	4 = (VERY HIGH)	3 = (HIGH)	2 = (MEDIUM)	1 = (LOW)

Likelihood	CONSEQUENCE				
	Insignif.[1]	Minor [2]	Modera. [3]	Major [4]	Catastr. [5]
Almost Certain [5]	3	3	4	4	4
Likely [4]	2	3	3	4	4
Possible [3]	1	2	3	4	4
Unlikely [2]	1	2	2	3	4
Rare [1]	1	2	2	3	3

4 Very High [VH]	URGENT - Stop work immediately, the risk requires immediate attention
3 High [H]	Continue with supervision and control measures in SWMS or site risk assessment
2 Medium [M]	Use control measures to ensure risk is low as reasonably possible
1 Low [L]	Manage by routine procedures and safe practices

CLIENT:

TGS REFERENCE:	REV.	DATE	PAGE(S) NO#	DESCRIPTION	PWZTMP	INIT
222353& 222354	00	4/11/2020	ENTIRE DOCUMENT	TRAFFIC MANAGEMENT PLAN DESIGNED FOR SYSTEMS CONNECT	0052043634	KJ
	01					
	02					
	03					
	04					

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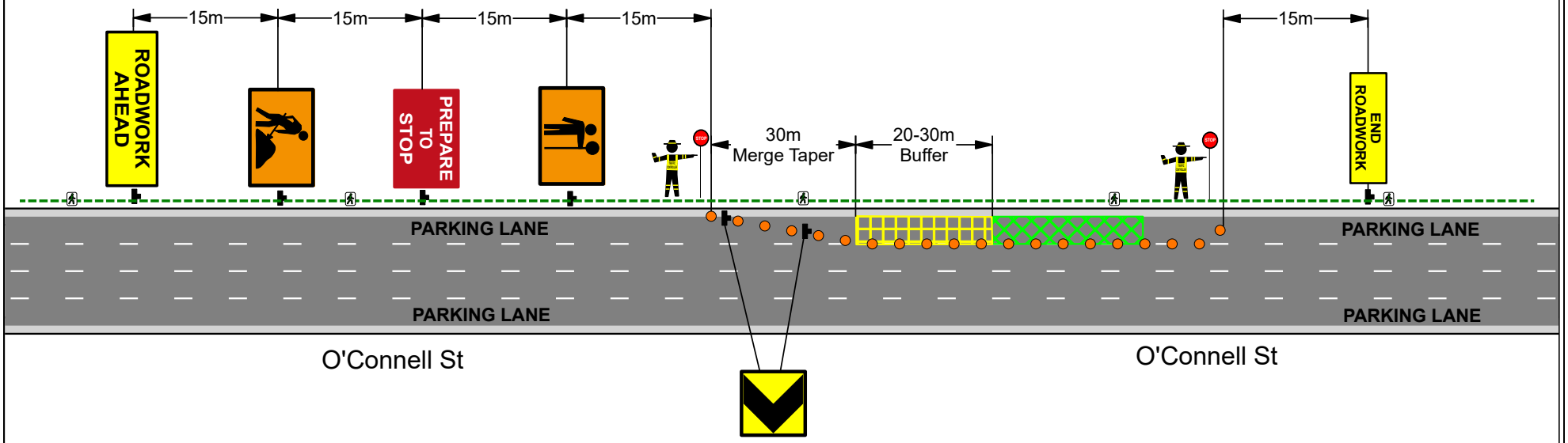
0052043634 PWZTMP-RIICWD503D

EVOLUTION JOB NUMBER: 440395257

EVO	REFERENCE ID: NOTES 01	REV#: 00	PAGE: 2 of 3



PEDESTRIAN MANAGEMENT PLAN

IF PEDESTRIAN ACCESS IS RELOCATED
THEN THE RELOCATED ACCESS IS TO
BE DELINEATED FROM THE WORKS WITH
APPROPRIATE FENCING AND SIGNAGE

IF THIS IS NOT PRACTICAL
THEN PEDESTRIANS WILL BE ESCORTED
THROUGH SITE BY TRAFFIC CONTROLLERS

CLIENT: SYSTEMS CONNECT

UNLOADING EQUIPMENT

THIS (TGS) SHALL BE READ IN CONJUNCTION WITH NOTES 01 IT HAS BEEN DEVELOPED TO ALLOW THE CLIENT TO CONDUCT WORKS AT THE LISTED LOCATION AND TO DISPLAY A COMMITMENT TO TRAFFIC AND PEDESTRIAN MANAGEMENT, REPORTING, AND REVIEWING. AN ON SITE RISK ASSESSMENT SHALL BE CONDUCTED PRIOR TO ERECTING ANY TRAFFIC CONTROL DEVICES.

NOT TO SCALE

LOCATION:	XXXXXXXX	TERM:	SHORT
SUBURB:	XXXXXXXX	ROAD TYPE:	MULTILANE
1ST CROSS ST:	XXXXXXXX	POSTED SPEED:	50KPH
2ND CROSS ST:	XXXXXXXX	OPERATION:	SHOULDER CLOSURE
MAP REFERENCE:	XXXXXXXX	TRAVELLED PATH:	PAST

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EVO	REFERENCE ID:	REV#	PAGE:
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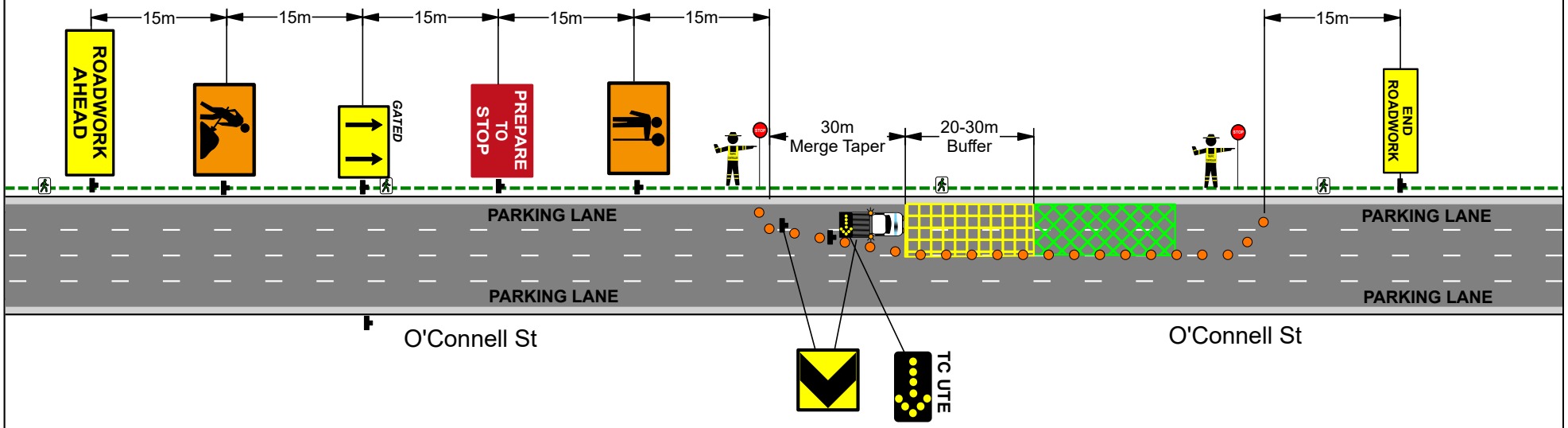

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NOT TO SCALE

LOCATION:	XXXXXXXX	TERM:	SHORT
SUBURB:	XXXXXXXX	ROAD TYPE:	MULTILANE
1ST CROSS ST:	XXXXXXXX	POSTED SPEED:	50KPH
2ND CROSS ST:	XXXXXXXX	OPERATION:	SHOULDER CLOSURE
MAP REFERENCE:	XXXXXXXX	TRAVELLED PATH:	PAST

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EVOLUTION JOB NUMBER: 0052043634

EVO	REFERENCE ID:	REV#	PAGE:
	222354	00	3 of 3

Appendix C. Copy of correspondence, photos etc (attach as required)

Appendix D. Draft Communication notice and distribution areas

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