

JHCPB Joint Venture

Traffic and Transport and Access Management Sub-plan

RIC-JHC-MPL-00-PL-250-002

Project	Design and Construction of Rozelle Interchange Project
Design Lot No.	00-PL-250
Document No.	RIC-JHC-MPL-00-PL-250-002
Revision Date	3 June 2021

Document Approval

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Revision Record				
Rev	Rev Date	Reason for issue	Developed by	Approved by
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
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Glossary / Abbreviations

Abbreviation	Expanded text
AM Peak	Morning peak period in the CBD. The four-hour period between 6.00am and 10.00am was analysed and nominates the 120-minute period between 7.00am and 9.00am as the most critical.
AR	Acceleration Rate: For site gate geometry is 3km/h for each 1.0m of travel on flat sealed surfaces.
AS	Australian / New Zealand Standards
Austrroads	The suite of Austrroads design guides.
Capacity	The nominal maximum number of vehicles that can travel along a road in a given time.
CCTV	Closed Circuit Television system
CEMP	Construction Environmental Management Plan
CoA	Condition of Approval
CoR	Chain of Responsibility – pursuant to National Heavy Vehicle Regulator (NHVR)
CPAS	Construction Parking and Access Strategy
Cruise ship days	Refers to days in which a cruise vessel is berthed at the White Bay Cruise Terminal; a rolling forecast of cruise ship days is publicly available, currently https://www.portauthoritynsw.com.au/cruise/cruise-schedule/
CSSI	Critical State Significant Infrastructure
Delay	Defined as the difference between a road user’s travel time over a section of road under normal conditions and when roadworks are in progress
Heavy vehicle	Classified as a Class 3 vehicle (a two axle truck) or larger, in accordance with the Austrroads Vehicle Classification System.
DPIE	Department of Planning, Infrastructure and Environment
DR	Deceleration Rate: For site gate geometry is 1 km/h for each 1.0m of travel on flat sealed dry surfaces.
Duration of Delay	Defined as the total period of time during which the free flow of traffic is obstructed, restricted, closed, interfered with, slowed or stopped and includes the time taken to clear all stopped, slowed and queued traffic and return the traffic to free flow conditions
EIS	WestConnex M4-M5 Link Environmental Impact Statement

Abbreviation	Expanded text
Emergency	An unforeseen event that requires urgent action to protect life or property, or an occasion when emergency services take control of a portion of the road network
Emergency Services	include the New South Wales Police Force, Fire & Rescue New South Wales (FRNSW), New South Wales Ambulance Service and State Emergency Services
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
Free Flow	Traffic flow conditions which typically exist on the relevant section of the road network outside of peak traffic flows and in the absence of other atypical traffic disruptions, prior to the commencement of any of the Contractor's Work.
Iron Cove Link	A tunnel connection between the Anzac Bridge and Victoria Road, east of Iron Cove Bridge
JHCPB	John Holland CPB Contractors Joint Venture
Local Road	Any public road used by construction traffic for the works that are council controlled, which provide for local circulation and access and any road or street which is unclassified and is not included in the NSW RMS Schedule of Classified Roads and Unclassified Regional Roads (January 2014).
LoS	Level of Service. A measurement of throughput including speed, travel time, freedom to manoeuvre, traffic interruptions and comfort / convenience
M4	Means M4 Motorway
M5	Means M5 Motorway
Non-rigid barriers	Barriers, including approved water filled plastic barriers, wire rope barriers and metal guard rail which have lateral deflections of varying amounts when impacted by an out-of-control vehicle.
High frequency delivery heavy vehicles	These are heavy vehicles used for regular, high frequency deliveries (e.g. concrete, steel and reinforcing steel, tunnel service pipes).
PM Peak	Afternoon peak period in the CBD. The four-hour period between 3.00pm and 7.00pm was analysed and nominates the 120-minute period 4.00pm to 6.00pm as the most critical.
PMP	Pedestrian Movement Plan
Project	Design and Construction of the Rozelle Interchange Project
REMM	Revised environmental management measure
RMS	Roads and Maritime Services
ROL	Road Occupancy Licence(s): A permit which allows the applicant to use or occupy a specified road space at approved times, provided that certain conditions are met.
Rozelle Interchange	An interchange at Lilyfield and Rozelle, including a connection to the proposed future Western Harbour Tunnel and Beaches Link project
SCO	Sydney Coordination Office
SPiR	M4-M5 Link Submissions and Preferred Infrastructure Report
Spoil heavy vehicles	These are heavy vehicles used for the movement of spoil from tunnelling and bulk earthworks and does not include any excavated material from utilities activities.
TCG	Traffic Coordination Group: Small group including lead traffic management personnel from the Project and approval representatives of the Client and Road Authority
TCP	Traffic Control Plan
TTCR	Temporary Traffic Control Room: A temporary arrangement that provides CCTV visibility of compounds and roads adjacent worksites to monitor trucks and incidents.
TCWS	RMS Traffic Control at Work Sites Manual
TfNSW	Transport for New South Wales
TMC	Transport Management Centre
TMP	Traffic Management Plan

Abbreviation	Expanded text
Traffic Delay	The difference between travel time with unimpeded conditions (i.e. prior to project placing any restrictions on the carriageway) and travel time after construction commences.
Traffic Delay Duration	The duration of a traffic delay is the total period of time during which the free flow of traffic is obstructed, restricted, closed, interfered with, slowed or stopped and includes the time taken to clear all stopped, slowed and queued traffic and return to free flow of traffic conditions.
Traffic Staging Drawings	Road design drawings showing traffic lane configurations to be provided for traffic passing through the Site during the various construction stages, including details of road alignment and geometry, intersection layouts, provision for buses and cyclists, work areas and pedestrian areas, drainage, signs and pavement markings, etc.
TTAMP	Traffic, Transport and Access Management Sub -Plan (this document)
TTLG	Traffic & Transport Liaison Group
VMP	Vehicle Movement Plan
VMS	Variable Message Sign

1. Introduction

1.1. Context

This Traffic and Transport and Access Management Sub-Plan (TTAMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the Design and Construction of Rozelle Interchange Enabling Works Project (the Project).

This TTAMP has been prepared to address the requirements of the Minister's Conditions of Approval (CoA), the WestConnex M4-M5 Link Environmental Impact Statement (EIS) Chapter 8 (Traffic and transport) and Appendix H (Technical working paper: Traffic and transport), the revised environmental management measures (REMMs) listed in the M4-M5 Link Submissions and Preferred Infrastructure Report (SPIR), approved Modification reports and all applicable guidance and legislation.

1.2. Background and project description

The M4-M5 Link EIS (AECOM 2017) assessed the impacts of the construction and operation of the Project on traffic and transport, within Chapter 8 and Appendix H (Technical working paper: Traffic and transport).

Please refer to Section 1.3 of CEMP for Project Description.

1.3. Scope of the Sub-Plan

The scope of this Plan is to describe how the John Holland CPB Contractors Joint Venture (JHCPB) proposes to manage project related traffic impacts, traffic staging, vulnerable user groups and operation of the JHCPB project traffic team including continuous improvement and auditing and reporting structure during construction of the project.

The parking management, worker transport, and site facilities vehicle movements are all considered as part of this sub-plan, with some detail included in the corresponding appendices.

A Construction Parking and Access Strategy (CPAS) has also been developed in accordance with CoA E54, to provide greater detail on the Project's parking strategy.

1.4. Environmental management systems overview

The environmental management system overview is described in Section 1.4 of the CEMP.

2. Purpose and objectives

2.1. Purpose

The purpose of this Plan is to describe how the JHCPB proposes to manage traffic, access, parking and pedestrians during construction of the Project.

2.2. Objectives

The key objective of the TTAMP is to ensure that traffic and pedestrian impacts during construction are minimised and are within the scope permitted by the planning approval. This includes minimising delays, ensuring consideration is given to the needs of all road users and maintaining safety for both workers and the general public.

To achieve these objectives, JHCPB will undertake the following as identified in Table 1.

Table 1 Performance outcomes

No.	Performance outcome	How performance outcome will be addressed	Records	Source
1	Minimise traffic impacts through implementation of mitigation measures to address the relevant CoA and the safeguards detailed in the EIS, REMMs and all other relevant legislation and requirements	Implement this Plan, particularly the traffic management measures and processes identified in Section 5. Undertake training, inspections, auditing and recording in accordance with Section 6.	Traffic Management Plans Vehicle Management Plans Pedestrian Management Plans Weekly environmental inspection records Complaints register	CoA C5
2	Minimise impacts to local streets from loss of parking, road closures and heavy vehicles	Access sites via the road preference identified in Section 4.4.1, where possible. Utilise the spoil and high frequency delivery vehicle haulage routes identified in Section 5.2. Implement the local road restrictions identified in Section 4.5. Implement the Construction Parking and Access Strategy (separate to this Plan).	Haulage routes GPS monitoring data Complaints register Weekly inspection records	EIS, Appendix A
3	Minimise impacts to road network efficiency during construction	Implement this Plan, particularly the traffic management measures and processes identified in Section 5. Undertake training, inspections, auditing and recording in accordance with Section 6.	Traffic Management Plans Complaints register	EIS, Appendix A
4	Maintain pedestrian and cyclist safety	Implement the processes and mitigation measures identified in Section 5.7. Undertake training, inspections, auditing and recording in accordance with Section 6.	Traffic Management Plans Pedestrian Movement Plans Site layout drawings and traffic staging diagrams	EIS, Appendix A

No.	Performance outcome	How performance outcome will be addressed	Records	Source
5	Access to properties to be maintained	Undertake works in accordance with approved Traffic Management Plans, Traffic Control Plans and other traffic management processes as identified in Section 5. Undertake consultation with any affected stakeholders in accordance with the Communication Strategy.	Complaints register Weekly inspection records Site layout drawings and traffic staging diagrams	EIS, Appendix A

The project design has been prepared with consideration to the additional 'desired performance outcomes' provided in the EIS, Appendix A. The additional project performance outcomes relevant to the design of the Project (and therefore not addressed in this Plan) are to:

- Improve performance and capacity of Sydney's road network,
- Provide an efficient motorway link and improve traffic flow on the motorway network,
- Improve traffic conditions and ease future congestion on the inner western and southwestern road network,
- Functional connectivity between the subsurface and surface road network,
- Future motorway connections to support a growing Sydney,
- Deliver significant travel time savings for motorists and freight vehicles, and
- Enable long-term development of the motorway network, including facilitating new cross-harbour capacity and connections to Sydney's south.

3. Environmental requirements

3.1. Relevant legislation and guidelines

3.1.1. Legislation and regulatory requirements

Identified regulatory requirements are:

- *Roads Act 1993*,
- *Road Transport Act 2013*,
- An approved and valid Road Occupancy Licence (ROL),
- An approved relevant Speed Zone Authorisation (SZA), and
- Australian Road Rules.

Legislation relevant to traffic management also includes the *Environmental Planning and Assessment Act 1979* (EP&A Act), under which the project approval was granted. Relevant provisions of the EP&A Act are explained in the register of legal and other requirements included in Appendix A1 of the CEMP.

3.1.2. Guidelines

The main guidelines, specifications and policy documents relevant to this Plan include:

- AS1742.3: Manual of Uniform Traffic Control Devices – Part 3: Traffic Control for Works on Roads,
- Roads and Maritime QA Specification G10 – Traffic Management,
- Roads and Maritime QA Specification R141 – Pavement Markings,
- Roads and Maritime QA Specification R142 – Raised Reflective Pavement Markers,
- Roads and Maritime QA Specification R143 – Sign Posting,
- Roads and Maritime Traffic Control at Worksites Manual (Version 5, 2018),
- Roads and Maritime – Safety Barrier Acceptance,
- Roads and Maritime – VMS Guidelines,
- Roads and Maritime – Delineation manual,
- Roads and Maritime – Traffic Modelling Guidelines,
- Roads and Maritime – Technical Direction (TDT 2009/07) Speed Enforcement on Worksites,
- AUSTROADS Guide to Traffic Management 2019 – Parts 1-13,
- AUSTROADS Guide to Road Design 2015 – Parts 1-8,
- AUSTROADS Guide to Road Safety 2013 _ Parts 1-9, and
- Transport Management Centre – Road Occupancy Manual.

3.2. Ministers Conditions of Approval

The CoA relevant to this Plan are listed in Table 2 below. A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents. Please refer to **Annexure A** for all other CoA relevant to the development of this Plan.

Table 2 Conditions of Approval relevant to the TTAMP

CoA No.	Condition Requirements	Document reference	How addressed
C4	The following CEMP Sub-plans must be prepared in consultation with the relevant authorities identified for each CEMP Sub-plan and be consistent with the CEMP referred to in the EIS. Required CEMP Sub-plan Relevant authority(s) and council(s) to be consulted for each CEMP Sub-plan:	This Plan Section 3.4	This TTAMP has been prepared in accordance with this condition and describes how JHCPB propose to manage traffic and transport and access during construction of the Project.
	(a) Traffic and transport and access	Section 3.4	Consultation of this plan will be in accordance with this condition. Section 3.4 outlines the consultation undertaken with the Port Authority of NSW, Sydney Coordination Office, Inner West Council, Canada Bay Council and City of Sydney. The Port Authority of NSW will be consulted when considering impacts on port land.
C5	The CEMP Sub-plans must state how:		
	(a) the environmental performance outcomes identified in the EIS and SPIR as modified by these conditions will be achieved;	Section 2.2 Section 5 Section 6	This Sub-plan was prepared in accordance with the environmental performance outcomes identified in the EIS and SPIR and detailed evidence in Section 2.2 of this Sub-plan. Traffic management and compliance to achieve these outcomes is detailed in Section 5 and Section 6 of this Sub-plan.
	(b) the mitigation measures identified in the EIS and SPIR as modified by these conditions will be implemented;	Section 5 Section 6	The implementation of traffic, transport and access management and mitigation measures identified in the EIS and SPIR is addressed in Section 5 and Section 6 of this Sub-plan. Section 5 of this Sub-plan addresses the traffic management measures JHCPB propose to implement during construction of the Project. Section 6 of this Sub-plan details compliance management measures JHCPB propose to implement during construction of the Project.
	(c) the relevant terms of this approval will be complied with; and	Section 3.2 Section 5 Section 6	Details regarding how JHCPB propose to comply with the relevant terms of approval are listed in this Table and Section 5 and Section 6 of this Sub-plan.

CoA No.	Condition Requirements	Document reference	How addressed
	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed.	Section 4 Section 5 Section 6 Environmental Risk Assessment Workshop (Section 3.2.1 of the CEMP)	Traffic, transport and access issues requiring management during construction of the Project have been identified through the EIS, SPIR and Environmental Risk Assessment Workshop. These issues including cumulative impacts have been detailed in Section 4 of this Sub-plan and Appendix A2 of the CEMP. Environmental risk analysis will be ongoing and regularly reviewed in accordance with Section 3.9 to Section 3.13 of the CEMP to ensure effective management of traffic and transport and access impacts. Mitigation and management measures for these issues are listed in Section 5 and Section 6 of this Sub-plan and Appendix A2 of the CEMP.
C6	The CEMP Sub-plans must be endorsed by the ER and then submitted to the Secretary for approval no later than one (1) month prior to the commencement of the construction activities to which they apply.	Refer to Section 2.2 of the CEMP	This Sub-plan has been endorsed by the ER.
E49	Spoil haulage vehicles associated with the construction of the CSSI are not permitted to use local roads within one (1) kilometre of construction works and construction ancillary facilities, unless approved by the Secretary.	Section 4.5	As detailed in Section 4.5 of this Sub- plan, JHCPB intend to use local roads for spoil haulage vehicles within one kilometre of the Project construction works and construction ancillary facilities if granted approval from the Secretary in accordance with CoA E49.

3.3. Environmental Management Measures

Refer to **Annexure A** for all REMMs relevant to the development of this Plan.

3.4. Consultation

This Plan has been provided to Inner West Council, City of Sydney Council, Sydney Coordination Office, and the Port Authority of NSW in accordance with CoA C4(a). Refer to Section 2 of the CEMP for consultation requirements relating to the CEMP and all sub-plans. A summary of the consultation undertaken for the development of this TTAMP is provided in Table 3. A consultation summary on subsequent revisions of the TTAMP is provided in **Annexure B**.

Ongoing consultation with relevant councils and other stakeholders will continue to be undertaken throughout the construction of the Project, regarding the Project's impact on construction traffic and parking management. Regular updates will be provided through regular meetings (at a frequency agreed with key stakeholders) to communicate upcoming changes and impacts in advance of the changes taking place.

Additional consultation with the above stakeholders will also be triggered as a result of special event planning.

Table 3 Summary of consultation undertaken for the development of this Plan

Agency	Contact with agency	Response received	Key issues	Where addressed
Sydney Water	Via email from the Project: <ul style="list-style-type: none"> 25/03/2019 26/03/2019 – TTAMP submission 27/03/2019 23/04/2019 	Via email to the Project: <ul style="list-style-type: none"> 25/03/2019 – Sydney Water proposed a meeting to discuss the plan further 27/03/2019 – Sydney Water propose a time to discuss the plan further. 29/03/2019 – Sydney Water amend meeting agenda 11/04/19 – Sydney Water advise they do not have any comments on this plan 	Sydney Water did not have any comments on the TTAMP.	N/A
Inner West Council (IWC)	Via email from the Project: <ul style="list-style-type: none"> 25/03/2019 27/03/2019 – TTAMP submission 05/04/2019 	Attendance at the Rozelle Interchange Regulator Briefing Session: <ul style="list-style-type: none"> 06/03/2019 Via email to the Project: <ul style="list-style-type: none"> 25/03/2019 – IWC confirm receipt of TTAMP 29/03/2019 – IWC respond with some comments 10/04/2019 – Meeting arranged with Council's parking planner, additional comments provided. 14/05/2019 – Additional comments provided. 	<ul style="list-style-type: none"> Consultation Impacts on pedestrians and cyclists 	<ul style="list-style-type: none"> This section Table 6, Table 7 Section 4.7

Agency	Contact with agency	Response received	Key issues	Where addressed
Canada Bay Council	Via email from the Project: <ul style="list-style-type: none"> ▪ 25/03/2019 ▪ 27/03/2019 – TTAMP submission ▪ 04/04/2019 	Via email to the Project: <ul style="list-style-type: none"> ▪ 09/04/2019 – Comments provided by email. 	<ul style="list-style-type: none"> ▪ Heavy Vehicle Routes 	<ul style="list-style-type: none"> ▪ Figure 5, Figure 6
City of Sydney	Via email from the Project: <ul style="list-style-type: none"> ▪ 25/03/2019 ▪ 27/03/2019 – TTAMP submission ▪ 04/04/2019 	Via email to the Project: <ul style="list-style-type: none"> ▪ 10/04/2019 – Comments provided by email. 	<ul style="list-style-type: none"> ▪ Consultation 	<ul style="list-style-type: none"> ▪ This section
Port Authority of New South Wales	Via email from the Project: <ul style="list-style-type: none"> ▪ 25/03/2019 ▪ 27/03/2019 – TTAMP submission ▪ 04/04/2019 	Via email to the Project: <ul style="list-style-type: none"> ▪ 25/03/2019 – Port Authority confirmed receipt of email. ▪ 10/04/2019 – Comments provided by email 	<ul style="list-style-type: none"> ▪ Cumulative impacts ▪ Traffic management ▪ Traffic impacts 	<ul style="list-style-type: none"> ▪ Section 4.2, Figure 1-4 ▪ Section 4.3.1 ▪ Section 5.11
Sydney Co-ordination Office	Via email from the Project: <ul style="list-style-type: none"> ▪ 25/03/2019 ▪ 27/03/2019 – TTAMP submission ▪ 04/04/2019 	Attendance at the Rozelle Interchange Regulator Briefing Session: <ul style="list-style-type: none"> ▪ 06/03/2019 Via email to the Project: <ul style="list-style-type: none"> ▪ 25/03/2019 – SCO confirmed receipt of email. ▪ 10/04/2019 – Comments provided by email. 	<ul style="list-style-type: none"> ▪ Traffic vehicle numbers ▪ Construction traffic impacts ▪ Speed limits ▪ ROL 	<ul style="list-style-type: none"> ▪ Table 4 ▪ Section 4.3, ▪ Section 4.4 ▪ Section 5.1 ▪ Section 5.4.1

4. Construction traffic impacts

4.1. Heavy vehicle categories

For the purposes of this plan, heavy vehicles include:

- Spoil heavy vehicles, these are heavy vehicles used for the movement of spoil from tunnelling and bulk earthworks and does not include any excavated material from utilities activities.
- High frequency deliveries heavy vehicles, these are heavy vehicles used for frequent deliveries and collections (e.g. concrete, steel and reinforcing steel, tunnel service pipes).
- Large span deliveries, these are heavy vehicles required for deliveries or infrequent deliveries that exceed 12.5m in length; and
- Other heavy vehicles, these are heavy vehicles used for low frequency deliveries (e.g. garbage removal, delivery of office supplies) or infrequent deliveries (e.g. mobilisation and demobilisation of plant and equipment) or small quantities of excavated material from utilities, utilities mobilisation or street sweeping, etc. These 'other heavy vehicles' would exclude the following heavy vehicle configurations:
 - B-doubles
 - Rigid truck and trailer combinations
 - Semi-trailers >14.5m in length; and
 - Road trains.

Where a distinction is required (e.g. Section 4.5 or Section 5.2) specific heavy vehicle categories will be identified. For ease of reading this Plan, in all other cases, 'heavy vehicle' will refer to any/all of the specific categories.

4.2. Construction traffic volumes

Table 4 represents the traffic volumes anticipated for the Project, based on those presented in the EIS.

It is noted that the values presented in Table 4 would fluctuate depending on the works being undertaken and would not be consistent throughout the entire construction period. The highest volumes of heavy and light construction vehicles are forecast at the Rozelle civil and tunnel site (C5).

Increased traffic volumes will be required during peak periods of construction activity. Increased heavy vehicle numbers will be consistent with the Approved Project.

Table 4 Construction vehicle numbers identified in the EIS

Key Construction Sites – Rozelle Interchange Project	Daily vehicles (one way)		AM peak hour (7:30-8:30am)				PM peak hour (4:15pm-5:15pm)			
	Heavy	Light	Heavy vehicles		Light vehicles		Heavy Vehicles		Light Vehicles	
			Arrive	Depart	Arrive	Depart	Arrive	Depart	Arrive	Depart
Rozelle Civil and Tunnel site (C5) ¹	517	350	23	23	100	N/A	23	23	N/A	350
The Crescent civil site (C6)	10	20	2	2	0	N/A	2	2	N/A	5
Victoria Road civil site (C7)	42	140	2	2	0	N/A	2	2	N/A	0
Iron Cove Link civil site (C8)	42	140	2	2	15	N/A	2	2	N/A	140

Note: ¹ Spoil haulage would occur 24 hours a day, seven days a week.

Please refer to Section 4.4 for a map of each of the key construction sites for the Rozelle Interchange Project.

4.3. Traffic generation from other major infrastructure projects

JHCPB anticipate commencement of construction in the second half of 2019. Based on this timeframe, construction activities will run concurrently with other approved major infrastructure projects in the region, namely:

- WestConnex M4-M5 Link Mainline Tunnels,
- Sydney Metro City Southwest.

There are also other major projects in the area surrounding the Project that are currently going through the planning approval process, however, are yet to be approved. This raises the potential for cumulative traffic impacts on the road network surrounding the M4-M5 Link Rozelle Interchange. These potential impacts are summarised in Table 5 below.

Table 5 Other potential cumulative traffic impacts with the M4-M5 Link Rozelle Interchange

Project	Time Frame	Potential Impact
Approved major infrastructure projects		
M4-M5 Link Mainline Tunnels	The construction of the M4-M5 Link Mainline Tunnels commenced November 2018 including tunnelling and surface works, with project completion in 2023.	Spoil movements departing the project are anticipated to predominantly be concentrated around Haberfield, Pyrmont Bridge Road and St Peters, using the M4 Motorway, Parramatta Road, Princes Highway and M5 Motorway to a number of approved sites within greater Sydney. Deliveries and concrete truck movements will increase during tunnelling operations and general construction activities.
Sydney Metro City and Southwest	The construction of Sydney Metro upgrade currently underway, is due for completion in 2024, with tunnel excavation being conducted through to the end of 2020.	The project is expected to see spoil being transported out of the city, with accumulative truck impacts on some roads to the city's west, and inner west areas at the same time as the M4-M5 Link Rozelle Interchange movements are conducted, specifically around the Victoria Road and City West Link.
Other major projects yet to be approved but with potential for cumulative impacts		
Sydney Metro West	The preparation of the Sydney Metro West Environmental Impact Statement is currently under way. Commencement of construction is expected in 2021.	Spoil movements departing the project are anticipated within the White Bay precinct using Sommerville Road and James Craig Road. Spoil truck and concrete delivery movements will increase during tunnelling operations and general construction activities
Glebe Island Batching Plant and Aggregate Handling	The project is currently under assessment within the Department of Planning and Environment (DPE). Determination of the project is anticipated in 2019. Commencement of construction is anticipated to commence in 2020.	Construction vehicle movements and operational concrete truck movements are anticipated to increase heavy vehicle volumes on James Craig Road. Operational concrete deliveries are anticipated to increase during the day shift with 24/7 operations also increasing heavy vehicle movements during evening and night-time periods within the precinct.

Opportunities and measures to work with other projects to minimise the effects of impacts and enhance the benefits of multiple projects occurring concurrently or consecutively will be addressed by complying with relevant CoA and REMMs, particularly REMM TT10 and TT15, identified in **Annexure A**.

Potential cumulative impacts would be captured through the preparation of Traffic Management Plans that are reviewed and approved by the Traffic Coordination Group as described in Section 5.13.2. Further to this, the Temporary Traffic Control Room established for the Project (refer to Section 5.12) will utilise CCTV feeds to monitor general traffic conditions and respond to incidents, as required.

A Construction Traffic Working Group has been established involving RMS, Ports Authority of NSW and the Sydney Coordination Office to coordinate traffic issues from projects in the vicinity of White Bay. This includes the Rozelle Interchange Project.

4.4. Key construction sites

The Project involves the following construction sites:

- Rozelle civil and tunnel site (C5),
- The Crescent civil site (C6),
- Victoria Road civil site (C7),
- Iron Cove Link civil site (C8), and
- Glebe Island civil site

Rozelle civil and tunnel site (C5) would be used as the principal coordination zone during construction, as it offers the best proximity to the construction sites to minimise travel times and vehicle interaction. It would be used for a combination of civil surface works, tunnelling and tunnelling support, construction workforce parking and administrative purposes during the Project construction period.

JHCPB will have a construction footprint which will require staged long-term traffic management controls in the following locations:

- City West Link at Rozelle,
- Victoria Road at Iron Cove,
- Victoria Road at Rozelle, and
- The Crescent at Rozelle.

During site establishment activities at each construction site, existing access points will be used for access and egress. More detailed information on the establishment and management of construction sites is contained in the Site Establishment Management Plan, CEMP, and/or site-specific Traffic Management Plans which will be developed during project delivery.

The access points in Sections 4.4.2 to Section 4.4.5, including Figure 1 to Figure 4, will be installed as part of the site establishment activities at each ancillary facility. Construction traffic staging will be split into numerous stages as outlined in Section 5. Access points may vary as a result of the traffic staging which will be detailed in the traffic management plans and traffic control plans. Changes in access point locations will be managed in accordance with Section 7.2 of this Plan.

Section 4.5 outlines spoil and high frequency delivery heavy vehicle local road impacts and the traffic and pedestrian impact assessment requirements of CoA E51.

4.4.1. Access for works

JHCPB will enter and depart from each worksite, depot or site compound using the following roads, in order of preference:

- Classified State Roads
- Regional and Unclassified Regional Roads, and
- Other parts of the road network, subject to obtaining approval of the Secretary in accordance with CoA E51 for local roads

Site access and egress routes utilise roads where they will avoid sensitive areas including schools, early learning centres, aged care facilities, hospitals and shopping precincts wherever possible. The designated haulage routes have been selected to minimise impact on residents and return spoil and construction vehicles to major arterial roads as quickly as possible.

4.4.2. Rozelle civil and tunnel site (C5)

Proposed changes to the current traffic alignment in the area:	Nil.															
Tunnel spoil haulage site?	Yes															
Daily light vehicle movements:	350 vehicles (maximum)															
Daily heavy vehicle movements:	517 vehicles (maximum)															
Vehicle access / egress operation:	<p>Haul routes are detailed in Section 5.2</p> <p>Access and egress points shift with construction staging, with locations shown in Figure 1 and outlined below:</p> <table border="1"> <thead> <tr> <th>Vehicle type</th> <th>Access</th> <th>Road type</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Light vehicles</td> <td>Lilyfield Road</td> <td>Unclassified Regional Road</td> </tr> <tr> <td>City West Link</td> <td>State Road</td> </tr> <tr> <td>James Craig Road & Sommerville Road</td> <td>James Craig Road: Local Road (refer to Section 4.5) Sommerville Road: Private Road</td> </tr> <tr> <td rowspan="2">Heavy vehicles</td> <td>City West Link</td> <td>State Road</td> </tr> <tr> <td>James Craig Road & Sommerville Road</td> <td>James Craig Road: Local Road (refer to Section 4.5) Sommerville Road: Private Road</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ▪ The eastern access on the City West Link is for heavy vehicles and is located via a temporary access road at the northern approach to the City West Link and The Crescent South intersection. Vehicles will be able to turn left in, right out via the existing signalized intersection. ▪ The western access on the City West Link is for heavy and light vehicles and is located opposite Railway Parade, west of The Crescent East. Vehicles will be able to turn left in and right/left out via a new signalised intersection. ▪ The James Craig Road/Sommerville Road access is for heavy and light vehicles (primarily spoil heavy vehicles) moving to/from east and west of the site: <ul style="list-style-type: none"> ▸ This access point will not be available for any heavy vehicles on White Bay cruise ship days between 7am and 10am. Access via the City West Link (left turn in) will still be available for spoil trucks arriving from west of the site. ▸ The James Craig Road / Sommerville Road access arrangement will remain in place subject to agreement with the Port Authority. ▸ Limitations from the licence agreement with Port Authority will be adhered to. 	Vehicle type	Access	Road type	Light vehicles	Lilyfield Road	Unclassified Regional Road	City West Link	State Road	James Craig Road & Sommerville Road	James Craig Road: Local Road (refer to Section 4.5) Sommerville Road: Private Road	Heavy vehicles	City West Link	State Road	James Craig Road & Sommerville Road	James Craig Road: Local Road (refer to Section 4.5) Sommerville Road: Private Road
Vehicle type	Access	Road type														
Light vehicles	Lilyfield Road	Unclassified Regional Road														
	City West Link	State Road														
	James Craig Road & Sommerville Road	James Craig Road: Local Road (refer to Section 4.5) Sommerville Road: Private Road														
Heavy vehicles	City West Link	State Road														
	James Craig Road & Sommerville Road	James Craig Road: Local Road (refer to Section 4.5) Sommerville Road: Private Road														
Truck queuing / storage capacity:	<ul style="list-style-type: none"> ▪ Internal Truck Queue Storage – eight Truck & Dogs within the marshalling area (80m long by 7m wide), and ▪ Additional storage capacity is also available on internal roads, providing space for up to an additional 24 Truck and Dogs. 															
Haulage routes	<ul style="list-style-type: none"> ▪ Refer to Section 4.5.1 and Section 5.2 regarding haulage routes to/from the site. 															

* Cruise ship days – Refers to days in which a cruise vessel is berthed at the White Bay Cruise Terminal. A rolling forecast of cruise ship days is publicly available, currently <https://www.portauthoritynsw.com.au/cruise/cruise-schedule/>.



Figure 1 Vehicle access locations at the Rozelle civil and tunnel site (C5)

4.4.3. The Crescent civil site (C6)

Proposed changes to the current traffic alignment in the area:	Yes, refer section 5.1.															
Tunnel spoil haulage site?	No; spoil trucks associated with the civil surface works will access the site as shown in Figure 2 and outlined below.															
Daily light vehicle movements:	20 vehicles (maximum)															
Daily heavy vehicle movements:	10 vehicles (maximum)															
Vehicle access / egress operation:	<p>Haul routes are detailed in Section 5.2</p> <p>Access and egress points shift with construction staging, with locations shown in Figure 2 and outlined below:</p> <table border="1" data-bbox="576 638 1428 918"> <thead> <tr> <th>Vehicle type</th> <th>Access</th> <th>Road type</th> </tr> </thead> <tbody> <tr> <td>Light vehicles</td> <td>The Crescent</td> <td>State Road</td> </tr> <tr> <td>Heavy vehicles</td> <td>The Crescent</td> <td>State Road</td> </tr> <tr> <td>Heavy vehicles</td> <td>Catherine Street</td> <td>Local road – refer Section 4.5</td> </tr> <tr> <td>Heavy vehicles</td> <td>Brenan Street</td> <td>Local road – refer Section 4.5</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ▪ Heavy vehicle access will be provided throughout construction at three locations off The Crescent (northbound and southbound) (all points will be left in, left out). Heavy vehicle access is required along Catherine and Brenan streets from Q1 to Q2 2023 for the delivery of plant/equipment and materials associated with construction activities for pedestrian bridge construction near the intersection of Railway Parade and Brenan Street. ▪ For heavy vehicle deliveries (excluding spoil) that cannot use the U-turn at Nelson Street, such as long precast elements or long pile cages, the use of the Minogue Crescent / Ross Street route will be utilised. This will be limited to those long or large span deliveries that cannot utilise the U-turn at Nelson Street and would therefore be infrequently used. ▪ Due to the left in, left out arrangement on The Crescent, heavy vehicles may U-turn at The Crescent and Nelson Street roundabout (truck only, no trailer). ▪ Heavy vehicle access is required along Johnston Street for spoil removal associated with the C6 civil site and for specific construction works along Johnston Street. 	Vehicle type	Access	Road type	Light vehicles	The Crescent	State Road	Heavy vehicles	The Crescent	State Road	Heavy vehicles	Catherine Street	Local road – refer Section 4.5	Heavy vehicles	Brenan Street	Local road – refer Section 4.5
Vehicle type	Access	Road type														
Light vehicles	The Crescent	State Road														
Heavy vehicles	The Crescent	State Road														
Heavy vehicles	Catherine Street	Local road – refer Section 4.5														
Heavy vehicles	Brenan Street	Local road – refer Section 4.5														
Truck queuing / storage capacity:	The compound will cater for expected numbers of HV deliveries within site during permitted delivery times, as frequency and volume will not be significant.															
Haulage routes	Refer to Section 5.2 regarding haulage routes to/from the site.															



Figure 2 Vehicle access locations at the Crescent civil site (C6)

4.4.4. Victoria Road civil site (C7)

Proposed changes to the current traffic alignment in the area:	Yes, refer section 5.1.																			
Tunnel spoil haulage site?	No, however tunnel spoil haulage trucks associated with the Rozelle Civil and Tunnel site will enter and exit the site (refer to Figure 1). Spoil trucks associated with the civil surface works will access the site as shown in Figure 3 and outlined below.																			
Daily light vehicle movements:	140 vehicles (maximum)																			
Daily heavy vehicle movements:	42 vehicles (maximum)																			
Vehicle access / egress operation:	<p>Haul routes are detailed in Section 5.2 Access and egress points shift with construction staging, with locations shown in Figure 3 and outlined below:</p> <table border="1"> <thead> <tr> <th>Vehicle type</th> <th>Access</th> <th>Road type</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Light vehicles</td> <td>Victoria Road</td> <td>State Road</td> </tr> <tr> <td>Hornsey Street</td> <td>Local Road</td> </tr> <tr> <td>Lilyfield Road</td> <td>Unclassified Regional Road</td> </tr> <tr> <td rowspan="4">Heavy vehicles</td> <td>Victoria Road</td> <td>State Road</td> </tr> <tr> <td>Hornsey Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>Gordon Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>Lilyfield Road</td> <td>Unclassified Regional Road</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ▪ Heavy vehicle access will be provided from Victoria Road (via left in, left out access points). ▪ Heavy vehicle access (no truck and dog) will also be provided from Lilyfield Road, Gordon Street and Hornsey Street during specific work periods when access directly from Victoria Road is restricted. ▪ Access through part of the construction site via James Craig and Sommerville Road (refer to Figure 1) will allow vehicles to travel between the Rozelle civil and tunnel site and Victoria Road civil site. 	Vehicle type	Access	Road type	Light vehicles	Victoria Road	State Road	Hornsey Street	Local Road	Lilyfield Road	Unclassified Regional Road	Heavy vehicles	Victoria Road	State Road	Hornsey Street	Local Road (refer to Section 4.5)	Gordon Street	Local Road (refer to Section 4.5)	Lilyfield Road	Unclassified Regional Road
Vehicle type	Access	Road type																		
Light vehicles	Victoria Road	State Road																		
	Hornsey Street	Local Road																		
	Lilyfield Road	Unclassified Regional Road																		
Heavy vehicles	Victoria Road	State Road																		
	Hornsey Street	Local Road (refer to Section 4.5)																		
	Gordon Street	Local Road (refer to Section 4.5)																		
	Lilyfield Road	Unclassified Regional Road																		
Truck queueing / storage capacity:	The compound will cater for expected numbers of HV deliveries within site during permitted delivery times, as frequency and volume will not be significant.																			
Haulage routes	Refer to Section and Section 4.5.2, regarding haulage routes to/from the site.																			

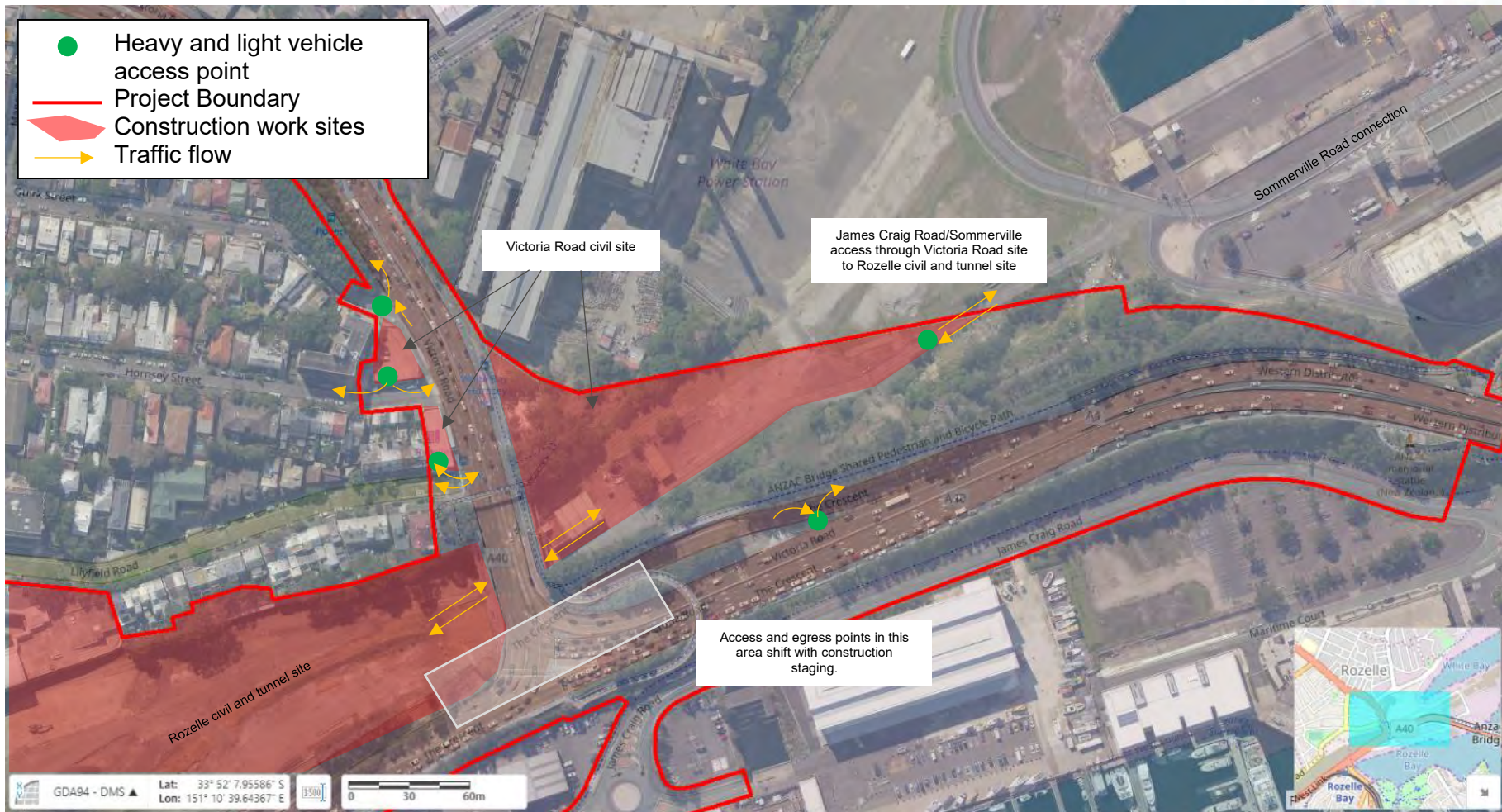


Figure 3 Vehicle access locations at the Victoria Road civil site (C7)

4.4.5. Iron Cove Link civil site (C8)

Proposed changes to the current traffic alignment in the area:	Yes, refer section 5.1.																																	
Tunnel spoil haulage site?	No tunnel spoil haulage; however, spoil trucks associated with the civil surface works will access the site as shown in Figure 4 and outlined below:																																	
Daily light vehicle movements:	140 vehicles (maximum)																																	
Daily heavy vehicle movements:	42 vehicles (maximum)																																	
Vehicle access / egress operation:	<p>Haul routes are detailed in Section 5.2 Access and egress points shift with construction staging, with locations shown in Figure 4 and outlined below:</p> <table border="1"> <thead> <tr> <th>Vehicle type</th> <th>Access</th> <th>Road type</th> </tr> </thead> <tbody> <tr> <td rowspan="7">Light vehicles</td> <td>Victoria Road</td> <td>State Road</td> </tr> <tr> <td>Clubb Street</td> <td>Local Road</td> </tr> <tr> <td>Toelle Street</td> <td>Local Road</td> </tr> <tr> <td>Callan Street</td> <td>Local Road</td> </tr> <tr> <td>Springside Street</td> <td>Local Road</td> </tr> <tr> <td>Manning Street</td> <td>Local Road</td> </tr> <tr> <td>Byrnes Street</td> <td>Local Road</td> </tr> <tr> <td rowspan="7">Heavy vehicles</td> <td>Victoria Road</td> <td>State Road</td> </tr> <tr> <td>Byrnes Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>Clubb Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>Toelle Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>Callan Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>Manning Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> <tr> <td>McCleer Street / Springside Street</td> <td>Local Road (refer to Section 4.5)</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Heavy vehicle access will be provided throughout construction at three locations off Victoria Road (westbound) (left in, left out). Heavy vehicle access will also be provided throughout construction between various sections of the Iron Cove Link civil site via the local road network including Byrnes Street, Clubb Street, Toelle Street, Callan Street, Manning Street, McCleer Street and Springside Street. Construction vehicles may crossover between compound sites in Callan Street, Toelle Street and Clubb Street. Crossovers would occur with the portions of these streets that are within the Project footprint. 	Vehicle type	Access	Road type	Light vehicles	Victoria Road	State Road	Clubb Street	Local Road	Toelle Street	Local Road	Callan Street	Local Road	Springside Street	Local Road	Manning Street	Local Road	Byrnes Street	Local Road	Heavy vehicles	Victoria Road	State Road	Byrnes Street	Local Road (refer to Section 4.5)	Clubb Street	Local Road (refer to Section 4.5)	Toelle Street	Local Road (refer to Section 4.5)	Callan Street	Local Road (refer to Section 4.5)	Manning Street	Local Road (refer to Section 4.5)	McCleer Street / Springside Street	Local Road (refer to Section 4.5)
Vehicle type	Access	Road type																																
Light vehicles	Victoria Road	State Road																																
	Clubb Street	Local Road																																
	Toelle Street	Local Road																																
	Callan Street	Local Road																																
	Springside Street	Local Road																																
	Manning Street	Local Road																																
	Byrnes Street	Local Road																																
Heavy vehicles	Victoria Road	State Road																																
	Byrnes Street	Local Road (refer to Section 4.5)																																
	Clubb Street	Local Road (refer to Section 4.5)																																
	Toelle Street	Local Road (refer to Section 4.5)																																
	Callan Street	Local Road (refer to Section 4.5)																																
	Manning Street	Local Road (refer to Section 4.5)																																
	McCleer Street / Springside Street	Local Road (refer to Section 4.5)																																
Truck queueing / storage capacity:	The compound will cater for expected numbers of HV deliveries within site during permitted delivery times, as frequency and volume will not be significant.																																	
Haulage routes	Refer to Section 4.5.3 and Section 5.2 regarding haulage routes to/from the site.																																	



Figure 4 Vehicle access locations at the Iron Cove Link civil site (C8)



Figure 5 Vehicle access locations at the Iron Cove civil site (C8) - Stage 2

4.4.6. Glebe Island civil site

Proposed changes to the current traffic alignment in the area:	Nil									
Tunnel spoil haulage site?	No									
Daily light vehicle movements:	25 vehicles (maximum)									
Daily heavy vehicle movements:	34 vehicles (maximum)									
Vehicle access / egress operation:	<p>Haul routes are detailed in 5.2. Access and egress points shift with construction staging, with locations shown in Figure 6 and outlined below:</p> <table border="1"> <thead> <tr> <th>Vehicle type</th> <th>Access</th> <th>Road type</th> </tr> </thead> <tbody> <tr> <td>Light vehicles</td> <td>James Craig Road Port Access Road Sommerville Road</td> <td>Local road and private roads – refer Section 4.5</td> </tr> <tr> <td>Heavy vehicles</td> <td>James Craig Road Port Access Road Sommerville Road</td> <td>Local road and private roads – refer Section 4.5</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Heavy vehicle access will be provided through Port Access roads/Sommerville Road from James Craig Road. The Port Access Road/Sommerville Road is a minor two-lane private road that provides access to the internal road network within Glebe Island. Heavy vehicle movements will primarily be associated with the delivery of construction material and steel girder segments to the proposed site. 	Vehicle type	Access	Road type	Light vehicles	James Craig Road Port Access Road Sommerville Road	Local road and private roads – refer Section 4.5	Heavy vehicles	James Craig Road Port Access Road Sommerville Road	Local road and private roads – refer Section 4.5
Vehicle type	Access	Road type								
Light vehicles	James Craig Road Port Access Road Sommerville Road	Local road and private roads – refer Section 4.5								
Heavy vehicles	James Craig Road Port Access Road Sommerville Road	Local road and private roads – refer Section 4.5								
Truck queueing / storage capacity:	The compound will cater for expected numbers of heavy vehicle deliveries within site during permitted delivery times, as frequency and volume will not be significant.									
Haulage routes	Refer to Section 4.5 and Section 4.4.2 regarding haulage routes to/from the site.									



Figure 6 Vehicle access locations at the Glebe Island civil site

4.5. Local roads – spoil and high frequency delivery heavy vehicles

In accordance with CoA E49, spoil haulage vehicles associated with the construction of the project, are not permitted to use local roads within 1km of the construction works and construction ancillary facilities, unless approved by the Secretary in accordance with CoA E51. JHCPB will avoid the use of local roads wherever practicable for the operation of spoil movements, as well as for high frequency deliveries and any other heavy vehicle movements associated with the Project construction activities, where possible.

The use of local roads have been classified as Secondary Restricted routes, as these routes require DPIE approval in accordance with CoA49 and CoA E51 prior to use. The local roads proposed to be used for spoil and high frequency heavy vehicles during construction are presented in Section 5.2.2.4. and Table 9.

Standard mitigation strategies/approach that will be implemented prior to the use of local roads in accordance with CoAE49 are listed within Section 5.2.2.4.

The use of local roads requires a traffic and pedestrian impact assessment and swept path analysis. These are provided in **Annexure C** and **Annexure F**.

If the Project requires access to any additional local roads for spoil or high frequency delivery heavy vehicle movements, JHCPB will submit a proposal for the use of required the roads to the Secretary, including a traffic and pedestrian impact assessment and swept path analysis if required as outlined in CoA E51 that:

- Demonstrates that local road usage will not compromise the safety of the public and will have minimal amenity impacts,
- Provides details as to the date of completion of the road dilapidation surveys for the subject local roads, and
- Describes the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.

JHCPB will develop and implement management strategies to avoid or mitigate identified impacts on the local roads identified in Table 6, including:

- At all times, maintaining safe and suitable access for vehicles and pedestrians to adjoining properties and side roads affected by the road construction,
- Not commence any work affecting access to adjoining properties and use of side roads without providing an adequate alternative access,
- Responsible consultation with the owners and/or occupiers of affected properties and businesses, including notification prior to commencing the construction of property accesses.
- Implement additional fencing, signposting (including Variable Message Signs (VMS) where appropriate), provide alternate access arrangements for any visitors, customers and delivery vehicles to adjoining property occupiers and communicate these changes effectively, and
- Heavy vehicle use will be minimised during school drop off and pickup times.

All local roads will be managed and mitigated in accordance with the CoA and REMM's in Annexure A.

In accordance with CoA E46, access to utilities and properties will be maintained wherever possible, unless prior agreement can be reached with the property or utility owner prior to the impact being implemented. Any property access physically affected by the construction of the Project is to be reinstated at the cessation of the associated activity to at an at least equivalent standard, unless otherwise agreed by the landowner or occupier.

4.6. Impacts on local roads from other heavy vehicles

Local road use will be required for 'other' heavy vehicles (refer Section 4.1) such as those infrequent deliveries and collections, for utilities activities, street sweeping, etc. These 'other' heavy vehicles exclude the following heavy vehicle configurations:

- B-doubles
- Rigid truck and trailer combinations
- Semi-trailers >14.5m in length; and
- Road trains.

Local road use for these 'other' heavy vehicles will require consideration of the justification, alternatives considered, period and duration of use, and CoA E51 requirements, including:

- Swept path analysis, if required
- Traffic and pedestrian impact assessment that:
 - › Demonstrates that the local road usage will not compromise the safety of the public and have minimal amenity impacts
 - › Provide details as to the date of completion of the road dilapidation surveys for the subject local roads, and
 - › Describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.

A register of local roads required for 'other' heavy vehicles will be included in Annexure D. Additional local roads if unavoidable will be included in Annexure D, once evidence in consideration of CoA E51, as identified above, has been prepared. The relevant CoA E51 evidence will be retained on the JHCPB Project database and provided to the Environmental Representative who has the authority to approve minor updates to CEMP sub-plans as described in Section 3.13.1 of the CEMP.

Minor updates to incorporate the relevant local roads in Annexure D must be approved by the Environmental Representative and the revised Plan available on the Project's website prior to 'other' heavy vehicle use of the subject local road(s).

Notification to local residents and Council of the local road by Project heavy vehicles will be undertaken in accordance with the Communication Strategy prior to use of the subject road. The notification will include the proposed duration of use of the local road.

4.7. Impacts on pedestrian and cyclist connectivity

The increase in construction vehicle volumes, and subsequent traffic management, would potentially impact pedestrians (including disabled persons) and cyclists as a result of pedestrian footways and cycle paths being diverted during construction. Construction staging would be implemented to maintain connectivity for cyclists and pedestrians during construction. Long-term pedestrian impacts and associated management measures are detailed in Section 5.7.

Short term closures or diversions will be introduced throughout the construction phase. Appropriate notifications and signage will be implemented prior to changed conditions.

An Active Transport Network Implementation Strategy will be prepared separate from this TTAMP in accordance with REMM TT20. The strategy will be consistent with the Active transport strategy in Appendix N of the EIS. The strategy will be prepared in consultation with relevant councils and Bicycle NSW and implemented prior to the commencement of project operations or as otherwise agreed to by the Secretary of NSW Department of Planning and Environment.

4.8. Impacts on public transport

Throughout construction bus stops will be closed and/or relocated and passengers will be redirected to nearby bus stops. Specific impacts on public transport and associated mitigation measures are detailed in Section 5.8.

5. Traffic Management

5.1. Construction stage traffic management

5.1.1. Rozelle Interchange work sites

Rozelle Interchange surface works including works undertaken on the Rozelle civil and tunnel site, Victoria Road civil site and the Crescent civil site traffic staging is split into numerous stages (nine) for the construction of tunnel on and off ramps, temporary / permanent pavement, culvert crossing, two-span bridge, intersection relocation and new shared path. The works involve the relocation of the City West Link and The Crescent intersection to the west by 100m. In addition, existing footbridges would be demolished in Victoria Road (north) and Victoria Road (east) and utilities would be relocated due to the road widening.

A traffic staging program is provided in Figure 7

Stage	Program																	
	2019		2020				2021				2022				2023			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Stage 0: Pedestrian path adjustments and barrier placement																		
Stage 1: Traffic switch onto new pavement at The Crescent & City West Link (CWL)																		
Stage 2: The Crescent traffic switch onto new pavement at Buruwan Pk & left turn lane at Victoria Rd. Victoria Rd traffic switch onto new pavement citybound onto ANZAC Br. Victoria Rd / The Crescent intersection adjustments.																		
Stage 3: Move traffic between CWL and James Craig Dr to the north. Victoria Rd / The Crescent intersection adjustments.																		
Stage 4: Shift The Crescent Annandale left turn. Install new lights at Johnston St. Victoria Rd / The Crescent intersection adjustments.																		
Stage 5: Adjust traffic signals at The Crescent & CWL intersection. Switch traffic onto temporary Victoria Rd bridge.																		
Stage 6: Shift CWL 5m south. Adjust traffic signals at The Crescent & CWL intersection. Shift The Crescent westbound traffic near Victoria Rd north & amend signal layout.																		
Stage 7: Shift The Crescent (Victoria Rd bound traffic) northwest.																		
Stage 8: Shift traffic onto temporary The Crescent to ANZAC Br alignment (temporary mouse hole)																		
Stage 9: Final lane configuration																		

Figure 7 Traffic staging program of works – Rozelle Interchange work sites

Construction traffic measures to be implemented include:

- Roadworks management:
 - › Provision of early notifications via (VMS) VMS or media announcements,
 - › Provision of temporary fence to delineate the construction zones with gated entry and exit points. Traffic controller would be used to manage construction vehicle egress movements, where required,
 - › All construction would occur behind temporary safety barriers or under lane closures,
 - › Provision for bus stop relocation and emergency services to ensure disruption is minimised, and
 - › Implementation of temporary speed restrictions within construction work zones.
- Pedestrian and cyclist management:
 - › Detour signs are provided to inform pedestrians and cyclists of temporary and permanent changes, and
 - › To minimise impacts on pedestrians and cyclists, traffic staging is programmed to maintain pedestrian and cyclist access on either side of The Crescent.

5.1.2. Iron Cove Link work site

Iron Cove Link surface works traffic staging is split into numerous stages (four) for the construction of tunnel portal, deviated carriageway and new shared path. Existing utilities would also be relocated due to the widening of Victoria Road.

A traffic staging program is provided in Figure 8

Stage	Program																	
	2019		2020				2021				2022				2023			
	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Stage 0 Current Victoria Road alignment																		
Stage 1 Barriers installed; Victoria Road three lanes only westbound																		
Stage 2 Traffic switch onto permanent westbound																		
Stage 3 Terry Street intersection reconfiguration																		

Figure 8 Traffic staging program of works – Iron Cove Link work site

Construction traffic measures to be implemented include:

- Roadworks management:
 - › Provision of early notifications via VMS or media announcements,
 - › Provision of temporary fence to delineate the construction zone in Victoria Road with gated entry and exit points. Traffic controller would be used to manage construction vehicle egress movements, where required,

- › All construction would occur behind temporary safety barriers or under land closures,
- › Provision for bus stop relocation and emergency services to ensure disruption is minimised, and
- › Implementation of temporary speed restrictions within construction work zones.
- Pedestrian and cyclist management:
 - › Provision of detour signs to guide pedestrians and cyclists to alternative routes during the closure of these routes, and
 - › Provision of a temporary pedestrian detour path within the surface works boundary between Toelle Street and Byrnes Street to minimise walking distance to bus stops provided in Victoria Road. In subsequent stages, a new footpath would be provided to maintain pedestrian access along the south side of Victoria Road.

- Access to properties and businesses:

To minimise construction impact, access to properties would be maintained under traffic controller supervision

5.1.3. Construction site traffic management

To provide safe access and egress to construction sites, JHCPB would implement management measures including:

- Design and construct temporary signalised site access points at the temporary western and eastern accesses at the Rozelle civil and tunnel site,
- Temporary signalised site access points will be developed in consideration of construction vehicle movements for the provision of deceleration lane on approach to signalised site access points where there is capacity,
- Install turning truck signs to warn motorists of trucks turning into and out of site accesses,
- Install Closed Circuit Television system (CCTV) at signalised access points to monitor construction vehicles,
- Investigate the capacity of intersection configurations to accommodate construction traffic volumes, and movements of the latest construction vehicle,
- Ensure access and egress driveways are visible to approaching traffic and signposted accordingly,
- Where practicable, manage pedestrians at site access and egress driveways with suitable measures such as traffic controller supervision,
- Install security fences and gates at locations which maintain clear sight lines and enable vehicles to park clear of adjacent travel lanes,
- Traffic Control Plans (TCPs) will be prepared, where required, for any temporary changes to the traffic environment associated with compound establishment and use,
- Pedestrian Movement Plans will be prepared, where required, for any temporary changes to pedestrian access resulting from compound establishment and use,
- Vehicle Movement Plans (VMPs) will be prepared, where required, for any access associated with establishment and use of construction compounds and access routes,
- Access for emergency vehicles and to firefighting equipment will be maintained, and
- Access for all utility services (water, sewer, electricity, gas, telecommunications) would be maintained to all pits, Yard and sub-stations.

The Austroads Guide to Traffic Engineering and the RMS Road Design Guide provides guidance on the design of intersections and access points. Temporary traffic controls may be required from time to time to facilitate short-term major haulage and the movement of over-dimension vehicles.

5.1.4. Site compound traffic management

There are a range of hazards for vehicles onsite, including rough surfaces, other larger plant and existing infrastructure. Of equal importance is the safety of construction personnel working within the work sites. For each stage of work JHCPB would ensure that:

- Regular toolbox meetings discuss on-site vehicle movements and changes to work areas,
- Site plant is fitted with flashing yellow lights, non-tonal reversing alarms ('quackers'), horns and two-way radios,
- Access tracks are clearly defined, and sign posted,
- Pedestrian tracks and crossing points are defined and sign posted,
- Warning signs or traffic controls are installed on the approach to hazards or conflict points, and
- Consideration would be given to reducing on-site speed limits.

The truck marshalling area located within the Rozelle civil and tunnel site would be used to manage arriving spoil trucks to the site. From there, spoil trucks would proceed to the designated spoil shed via internal haul roads by following directional signs provided at internal intersections.

After loading at the spoil shed, spoil trucks are to proceed to the wash bay and weighbridge located adjacent to each spoil shed. Upon receipt of a weighbridge docket, spoil trucks are to leave the site by turning right into The Crescent westbound / City West Link westbound towards the spoil disposal sites. The industry proprietary tracking system (GPS system) will be implemented to provide real time monitoring of the spoil haulage vehicles in accordance with CoA E53.

The Crescent, Victoria Road and Iron Cove Link compounds will cater for expected numbers of HV deliveries within site during permitted delivery times, as frequency and volume will not be significant.

5.2. Haul routes

Haul routes for any spoil and high frequency delivery heavy vehicle movements associated with the construction have been developed in consultation with road authorities, considering the most likely of haul routes for spoil tip sites which have been identified.

It is anticipated that spoil would be hauled from the Project using heavy vehicles to spoil reuse and disposal sites. Haul and delivery vehicle routes to and from construction sites have been developed to avoid local roads outside the construction footprint and within 1km of the construction works, where possible, while maximising the use of state and regional roads. The routes were chosen based on using roads nominated in the EIS or approved under the RMS Heavy Vehicle, PBS or the Safety, Productivity and Environment Construction Transport (SPECT) scheme. They should minimise potential impacts on traffic and sensitive receivers along the route and generally use major arterial roads or motorways as the haul routes.

JHCPB acknowledges that construction vehicles must not use Robert Street to access the construction site located on James Craig Road, in accordance with Condition E50 of the CoA.

Haulage routes have been classified as **Primary** and **Secondary Restricted** for the project. These routes are identified in Figure 9 and Figure 10

A Primary route is classified as a main route to be used during construction and typically consists of major arterial roads.

A Secondary Restricted route contains specific restrictions that must be adhered to for use. These routes have been classified as 'restricted' as they will be used intermittently during construction for specific purposes.

The haulage routes will be provided to the haulage contracting companies for dissemination to their drivers and will be readily available at each of the compound sites for review by any drivers. This would include information about specific restrictions and requirements for Secondary Restricted routes (e.g. cruise ship day restrictions and James Craig Road/Sommerville Road access gate closures).

A description of the Primary and Secondary Restricted routes and justification are provided in Sections 5.2.1 and 5.2.2 below.

5.2.1. Primary haul routes

The Primary haul routes used for spoil and high frequency delivery heavy vehicles associated with the Rozelle civil and tunnel site, The Crescent civil site, Victoria Road civil site and Iron Cove civil site are shown in Figure 9

Heavy vehicle routes associated with Rozelle civil and tunnel site, The Crescent civil site, Victoria Road civil site and Iron Cove civil site will consist of heavy vehicles required for bulk earthwork spoil removal and for high frequency deliveries.

Approximately 85% of heavy vehicle movements (refer Table 4) for the Project will be to/from the Rozelle civil and tunnel site. This is due to the large volume of tunnel spoil and civil works spoil being removed from this site. The majority of spoil heavy vehicles are expected to travel to/from west of the Rozelle civil and tunnel site, which would be able to access the site via the Eastern or Western access or James Craig/Sommerville Road.

The James Craig/ Sommerville Road primary route is a key access point for the project. However, on cruise ship days, between 7.00 am to 10.00 am, access to the site via the James Craig / Sommerville access point will be restricted. Additionally, access via James Craig / Sommerville access point will be restricted during construction works associated with the Rozelle civil and tunnel site and Victoria Road civil site. Access will be restricted at this access point for specific approved construction activities for the Project. Access to the site will only be available from west of the site (via City West Link) as there is no right turn access to the site from City West Link / Western Distributor for vehicles travelling from east of the site. During the restricted cruise ship days times and staged construction works where James Craig/Sommerville Road cannot be accessed, Secondary Restricted routes will be utilised as outlined in Section 5.2.2.

A description of the Primary routes, any restrictions in place and justification for use are provided in Table 6.



Figure 9 Primary haulage route

Route identifier	Route description & requirements	Heavy Vehicle Type	Justification
City West Link Road	Heading East / West on City West Link	Spoil High frequency delivery Large span deliveries	City West Link adjoins the southern boundary of the Rozelle Civil and tunnel site. This route is a primary route that will permit heavy vehicles to enter and exit the project. It is a major road that can accommodate heavy vehicle traffic. This route is on a State Road. No local roads will be used on this route.
The Crescent – West	Heading West on The Crescent and into the Crescent site	Spoil High frequency deliveries	This is the quickest route and allows vehicles to turn left into The Crescent civil site heading West along The Crescent. This route is on a State Road. No local roads will be used on this route.
Western Distributer	Heading East / West on the Western Distributer	Spoil High frequency delivery Large span deliveries	This route will be required for vehicles heading East (i.e. existing the project towards the City) and by vehicles heading West (i.e. entering the project from the East. In some instances, high frequency heavy vehicles will also use this access route. This route is on State Roads. No local roads will be used on this route. On cruise ship days, the western distributor (westbound) will not be available between 7am-10am and vehicles will need to access the site from the west, eastern gate or avoid scheduling use of this access during these times.
Victoria Road	Victoria Road, A3 Metroad.	Spoil High frequency deliveries	This is the shortest route along state roads to connect the Iron Cove, Victoria Road and Rozelle civil and tunnel sites. This route will also be used to exit the project by continuing onto Victoria Road or turning left/right onto the A3 Metroad. Victoria Road south bound will also be required for use to turn right into the project site after new westbound lane is created to enter the tunnel dive. Expected timeframe for use is approximately Q3 2020 to Q1 2023. This route includes the use of State Roads. No local roads will be used on this route.
Parramatta Road	Heading East / West along Parramatta Road	Spoil High frequency delivery Large span deliveries	This route will be used to access and exit the Project site as a major arterial road connecting to City West Link. This route provides connection to the West.
White Bay gate, James Craig Road & Sommersville Road	City West Link, The Crescent, James Craig Road and Sommersville Road	Spoil High frequency deliveries	This route will be used by spoil heavy vehicles entering and exiting the project. In some instances, high frequency heavy vehicles will also use this access route. On cruise ship days this route will not be available between 7am-10am and vehicles will need to access the site from the west, eastern gate or avoid scheduling use of this access during these times. Additionally, during construction works associated with the Rozelle Rail Yards civil site and Victoria Road civil site access will be restricted at this access point.

Table 6 Primary haulage route descriptions and restrictions

5.2.2. Secondary Restricted routes

Secondary restricted routes differ from primary routes as they will take significantly lower volumes of traffic and each route contains restrictions, either on the size of vehicle or time the route can be used. The justification for use for each Secondary Restricted Route is provided in **Annexure E**.

A description of the Secondary Restricted routes and any restrictions in place is provided in Table 9. A description of the heavy vehicle type, route movement and heavy vehicle movements (one way) are included in Table 9.

The Secondary Restricted routes will be used for spoil and high frequency delivery heavy vehicles associated with the Rozelle civil and tunnel site, The Crescent civil site, Victoria Road civil site and Iron Cove Link civil site as shown in Figure 10

In accordance with CoA E49, spoil haulage vehicles associated with the construction of the project, are not permitted to use local roads within 1km of the construction works and construction ancillary facilities, unless approved by the Secretary in accordance with CoA E51. The local roads proposed to be used for spoil and high frequency heavy vehicles during construction are outlined in Section 5.2.2.4 in accordance with CoA E51.

The Secondary Restricted routes are shown in Figure 10 and will be used intermittently throughout the Project for spoil and high frequency delivery heavy vehicles associated with the Rozelle civil and tunnel site, The Crescent civil site, Victoria Road civil site, Iron Cove civil and tunnel site and Glebe Island Ancillary Facility. These Secondary Restricted routes are intended to contain specific restrictions for use intermittently during the Project.

5.2.2.1. Secondary Restricted routes for cruise ship restricted period

When cruise vessels are berthed at the White Bay Cruise Terminal, between the hours of 7.00 am to 10.00am, access to the Project site via James Craig Road and Sommerville Road will not be available. During these days, the Secondary Restricted routes are proposed to be used for spoil (no truck and dog) and high frequency vehicles.

The provision of Secondary Restricted routes will provide alternate route options across all Project sites (Rozelle civil and tunnel site, The Crescent civil site, Victoria Road civil site and Iron Cove civil site) during these limited timeframes. These routes are critical for providing alternate access to the Rozelle civil and tunnel site and between the other Project sites during the cruise ship restricted period.

A rolling forecast of cruise ship days is publicly available, currently at <https://www.portauthoritynsw.com.au/cruise/cruise-schedule/>. An estimated forecast of the cruise ship days (as of February 2020) indicate peak times between November to March.

The secondary routes have been selected to minimise impact on residents and return spoil and construction vehicles to major arterial roads as quickly as possible during the cruise ship restricted times.

5.2.2.2. Use of Secondary Restricted routes during closure of James Craig Road / Sommerville Road access point

During staged construction works for the Rozelle Rail Yards civil site and Victoria Road civil site, the access point to James Craig Road and Sommerville Road will be closed. This access point will be closed to permit construction of specific activities for the approved Project. Construction activities that will require closure of the access point to complete include:

- the construction of the western and eastern temporary access roads;
- demolition and re construction of the Victoria Road bridge; and
- removal of temporary access roads once Victoria Road is re-constructed.

The use of the Secondary Restricted routes is required during the closure of the James Craig Road / Sommersville Road access point.

5.2.2.3. Use of Secondary Restricted routes ‘by exception’

Outside of the cruise ship restricted period, the use of the Secondary Restricted routes will be required by exception in specific scenarios. Use of the routes by exception have been nominated in Table 9 and **Annexure E**. The use of Secondary Restricted routes will be required in specific scenarios for safety and maintenance requirements to be carried out and to enable continuation of the project.

The scenarios where Secondary restriction routes are required for use ‘by exception’ include:

1. During installation of a new wheel wash at Gate 4 – installation of a new wheel wash at Gate 4 at Rozelle Rail Yards will require closure of the gate while the wheel wash is installed.
2. During regular on-going maintenance of the wheel wash at Gate 4 at Rozelle Rail Yards. Gate 4 would be closed for approximately 3 hours, 1 day a month to facilitate the maintenance and cleaning of the wheel wash.
3. In the event of a heavy vehicle break down at Gate 4, Rozelle Rail Yards.
4. During on-going maintenance to the haul road associated with Gate 4, Rozelle Rail Yards. On-going maintenance is required for the safety of heavy vehicles travelling within the site for the Project. During these times Gate 4 would be closed temporarily while maintenance of the haul road is carried out (anticipated 1-2 days duration).

5.2.2.4. Use of local roads as Secondary Restricted Routes

In accordance with CoA E49, spoil haulage vehicles associated with the construction of the project, are not permitted to use local roads within 1km of the construction works and construction ancillary facilities, unless approved by the Secretary in accordance with CoA E51. The use of local roads has been classified as Secondary Restricted routes, as these routes require DPIE approval in accordance with CoA49 and CoA E51 prior to use.

Consideration of the following is required prior to local road use:

- The local road is listed for approval for use within Table 7.
- Adherence to the standard mitigation strategies/approach listed within Table 8.
- Adherence to specific mitigation measures or restrictions for each local road as listed within Table 9.

Table 7 Summary of local roads to be used by spoil and high frequency delivery vehicles during construction.

Local Road	Description
James Craig Road/Sommerville Road	Spoil and high frequency vehicle movements will use the local roads of James Craig Road and Sommersville Road, which are surrounded by commercial / industrial land uses.
Gordon Street (south of Lilyfield Road)	This road is classified as a local road and a portion of the street will be permanently closed to allow for construction of the Project. This part of the road is located within the Project footprint and therefore consideration of CoA E51 is not required.
Catherine Street route	The use of Catherine Street is required as part of a heavy vehicle route to access the Project sites.

Local Road	Description
Brenan Street	The use of Brenan Street (which includes use of the Catherine Street route) is required as an: <ol style="list-style-type: none"> 1. Entry route to the Whites Creek Link Bridge site (entry to the site will occur via Balmain Road (north), Lilyfield Road, Catherine Street and Brenan Street) and 2. Exit route from the Whites Creek Link Bridge site (exit via Brenan Street, Catherine Street, Moore Street and Balmain Road to City West Link)
Hornsey Street / Gordon Street (north of Lilyfield Road)	At the Victoria Road Civil site, the site at the corner of Hornsey Street and Victoria Road will be accessed by the existing driveways on both streets. Initially, heavy vehicle use of Hornsey Street will be restricted to within the Project footprint. From Q2 2020 to Q4 2020, use of Hornsey Street to/from Gordon Street will be required, while these local roads are open to the public.
Iron Cove Link site (C8) local road use	
Byrnes Street	Access/egress along Byrnes Street, while open to the public, will be required intermittently throughout construction.
Clubb Street	Clubb Street will be closed permanently as a result of the Project, therefore, there will be no public access to the portion of the street within the Project footprint, which is required by heavy vehicles. Additional access/egress along Clubb Street (outside of the Project footprint), while open to the public, will be required intermittently throughout construction.
Callan Street	There will be no public access to the portion of Callan Street within the Project footprint whilst heavy vehicles enter the site from Victoria Rd. Access gates are proposed to enable heavy vehicles to cross Callan Street and traffic control whilst the road remains open to the public. Additional access / egress along Callan Street, while open to the public, will be required intermittently throughout construction. These movements would be in addition to those heavy vehicles crossing Callan Street from one portion of the construction site to another portion of the construction site.
Toelle Street	Access gates are proposed to enable heavy vehicles to cross Toelle Street within the project footprint whilst the road remains open to the public. An estimated maximum of 90 heavy vehicles per day would use this crossing within the footprint. Additional access/egress along Toelle Street, while open to the public, will be required intermittently throughout construction.
Manning Street	Heavy vehicle access/egress between various sections of the western boundary of the Iron Cove Link civil site will be needed from Byrnes Street, Clubb Street, Toelle Street, Callan Street, and McCleer Street / Springside Street; all of which will require movements along Manning Street, while open to the public.
McCleer Street / Springside Street	Heavy vehicle access/egress to the western boundary of the Iron Cove Link civil site will be required via McCleer Street and Springside Street, while open to the public.

* Note: A local road is defined for the Project as any road or street which is unclassified and is not included in the NSW RMS Schedule of Classified Roads and Unclassified Regional Roads (January 2014).

Standard mitigation strategies/approach that will be implemented prior to the use of local roads listed in Table 6 are presented in Table 7 below.

Table 8 Standard mitigation strategies / approach for local road usage

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> ▪ Swept path analysis will be submitted with local road usage requests, where required.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> ▪ A Traffic Management Plan will be approved by TfNSW and the Transport Management Centre prior to the use of site access points.

Condition of Approval E51 requirement	Mitigation strategies / approach
	<ul style="list-style-type: none"> ▪ Signage advising of construction traffic conditions will be implemented in accordance with a Traffic Control Plan. ▪ Signage advising of altered traffic conditions will be implemented in accordance with a Traffic Control Plan ▪ Heavy vehicles will be subject to the existing speed limits and road rules. ▪ Amenity impacts are minimised as pedestrian and public vehicle access is maintained. ▪ Where required, authorised traffic controllers will be placed at the site access points. Authorised traffic controllers are not to stop traffic on the road to allow trucks to enter and leave the site. They must wait until a suitable gap in traffic allows them to assist trucks to exit the site. Motorists already on the road have right-of-way.
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> ▪ Road dilapidation surveys will be undertaken prior to commencement of use of the road by heavy vehicles for the Project, in accordance with CoA E61.

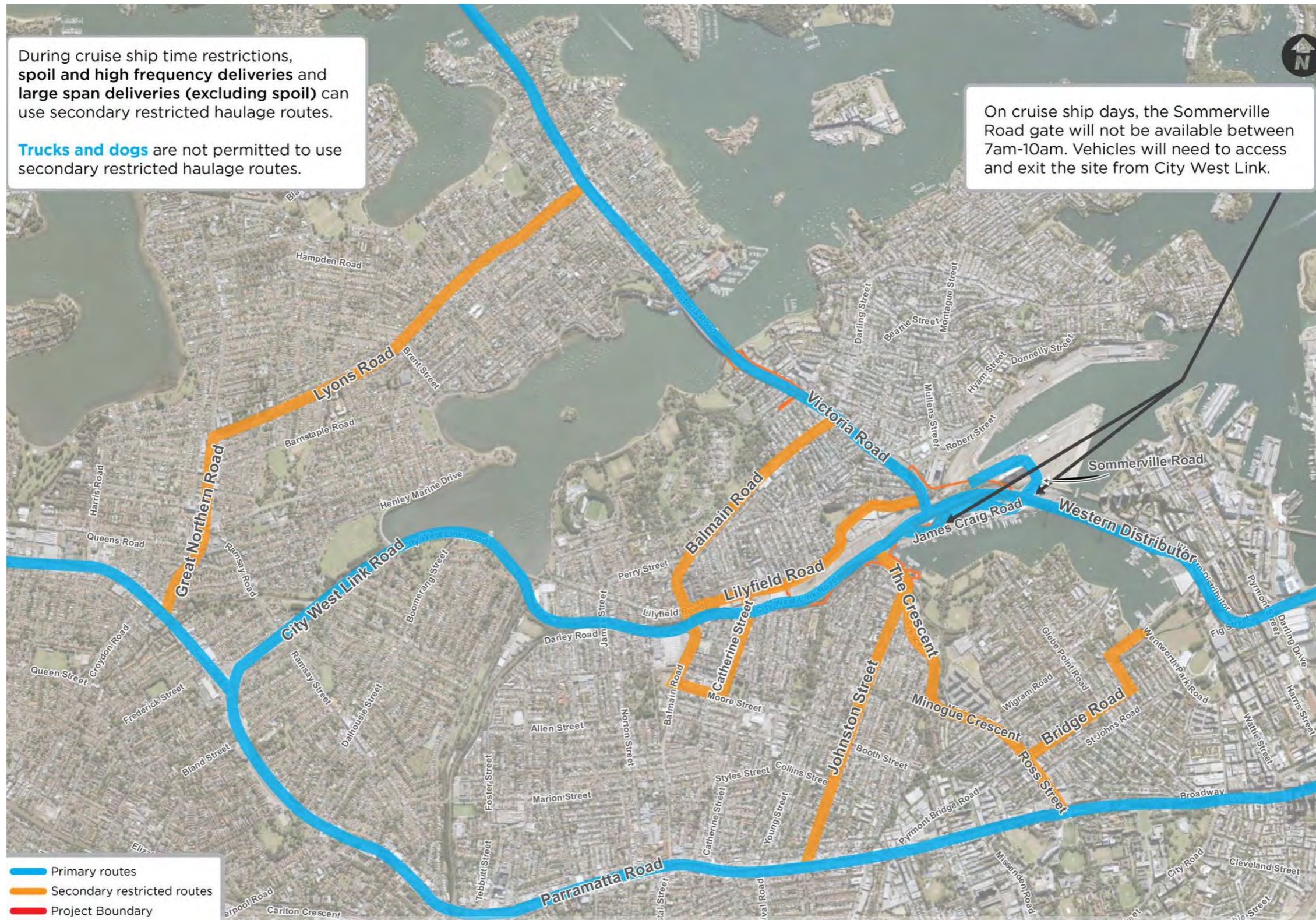


Figure 10 Primary and Secondary Restricted routes

Table 9 Secondary Restricted route descriptions and restrictions

Route description	Road classification	Route movement	Vehicle type	Hours of usage and number of vehicles	Additional restriction requirements
The Crescent (U-turn)	State	Heading South on the Crescent do a U-turn at Nelson Street, head north on the Crescent, turn left onto City West Link or right onto The Crescent	<ul style="list-style-type: none"> No truck and dogs Spoil heavy vehicles (no truck and dog) High frequency deliveries Other heavy vehicles 	A daily maximum of 10 (one way) heavy vehicle movements	-
Lyons Road, Great North Road, Wattle Street, Dobroyd Parade	State	Victoria Road, Great North Road, Parramatta Road, Wattle Street, Dobroyd Parade and onto City West Link	<ul style="list-style-type: none"> No truck and dogs High frequency deliveries Spoil heavy vehicles (no truck and dog) Other heavy vehicles 	A daily maximum of 42 (one way) heavy vehicle movements are expected to use this route.	-
Darling Street / Balmain Road	State	One-way movement from Victoria Road to the City West Link using Darling Street and Balmain Road only.	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog) High frequency deliveries Infrequent Large Span deliveries Other heavy vehicles 	<ul style="list-style-type: none"> 7.00 AM – 10.00 PM - a maximum of 72 one-way heavy vehicle movements, with an average of 5 one-way vehicle movements per hour calculated over a calendar week. The hourly rate may increase to 8 per hour during cruise ship gate closures between 7.00AM to 10.00AM. 10.00 PM – 7.00 AM - a maximum of 40 one-way heavy vehicle movements, with an average of 4 one-way heavy vehicle movements per hour calculated over a calendar week. 	The use of this route between 10.00 pm – 7.00 AM is subject to Section 5.6 (Construction traffic monitoring) of the approved Noise and Vibration Management Plan.
Lilyfield Road	Regional	One-way movement from City West Link (or Victoria Road along Lilyfield Road), Balmain Road, Lilyfield Road and Catherine Street.	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog) High frequency deliveries Infrequent Large Span deliveries 	<ul style="list-style-type: none"> 7.00 AM – 10.00 AM (Cruise Ship Days only or 'by exception') - a total of 30 one-way heavy vehicle movements, with a maximum of 10 per hour. 	When the access point from Victoria Road to Lilyfield Road is closed, an alternate Secondary Restricted route will be required.
Bridge Road	State	One-way movements between Blackwattle Bay Batching Plant and Ross Street using Bridge Road only.	<ul style="list-style-type: none"> High frequency deliveries No truck and dog 	<ul style="list-style-type: none"> 7.00 AM – 10.00 PM - a total of 30 one-way high frequency deliveries per day, excluding during school zone hours (with the exception of use during the cruise ship restricted period of 7.00 AM - 10.00AM only). 10.00 PM – 7.00 AM - a maximum of 40 one-way heavy vehicle movements, with an average of 4 one-way heavy vehicle movements per hour calculated over a calendar week. 	The use of this route between 10.00 pm – 7.00 AM is subject to Section 5.6 (Construction traffic monitoring) of the approved Noise and Vibration Management Plan.

The Crescent / Minogue Crescent / Ross Street	State	One-way movement from Parramatta Road to the City West link using Ross Street, Minogue Crescent and The Crescent only.	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog) High frequency deliveries Large Span deliveries Other heavy vehicles 	<ul style="list-style-type: none"> 7.00 AM – 10.00 PM - a total of 42 heavy vehicles, with a maximum of 5 per hour excluding school zone hours (with the exception of use during the cruise ship restricted period of 7.00 AM-10.00 AM only). 10.00 PM – 7.00 AM - a maximum of 4 one-way heavy vehicle movements per hour 	The use of this route between 10.00 pm – 7.00 AM is subject to Section 5.6 (Construction traffic monitoring) of the approved Noise and Vibration Management Plan.
Balmain Road, Lilyfield Road, Catherine Street Loop	State LOCAL ROAD – Catherine Street	One way movement from City West Link (or Victoria Road), onto Balmain Road, Lilyfield Road, Catherine Street and onto City West Link	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog) High frequency deliveries Other heavy vehicles 	<ul style="list-style-type: none"> 80 heavy vehicles per day (maximum of 8 per hour), or 96 heavy vehicles per day during the cruise ship restricted period (maximum 15 per hour during cruise ship restricted time of 7.00am to 10.00am), or 117 heavy vehicles per day when the James Craig Road / Sommerville Road access gate is shut (maximum 15 per hour), or 147 heavy vehicles per day during the cruise ship restricted period and when the James Craig Road / Sommerville Road access gate is shut (maximum of 15 per hour increasing up to 20 per hour during the cruise ship restricted period of 7.00am to 10.00 am) 	Route also permitted for use 'by exception'. Heavy vehicle use 'by exception' must adhere to the requirements outlined in Section 5.2.2.3.
Catherine Street (heading south from Moore Street), Moore Street, Balmain Road	State and Regional LOCAL ROAD – Catherine Street	One way movement heading west along Brenan Street, south onto Catherine Street, west along Moore Street, north along Balmain Road onto City West Link	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog) High frequency deliveries Other heavy vehicles 	A maximum of 22 heavy vehicles, with a maximum of 6 heavy vehicles per hour.	
Johnston Street – no truck and dog	State	Parramatta Road, Johnston Street and The Crescent	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog) High frequency deliveries Other heavy vehicles 	<ul style="list-style-type: none"> 7.00AM – 6.00PM - a total of 14 two-way heavy vehicle movements per day. 	
Johnston Street – truck and dog heavy vehicles northbound	State	One-way movement from Parramatta Road, Johnston Street and The Crescent	<ul style="list-style-type: none"> Spoil heavy vehicles – truck and dog (excludes spoil from tunnelling) 	<ul style="list-style-type: none"> A maximum of 28 per day at peak construction, with a maximum of 7 heavy vehicles per hour and no heavy vehicles during school morning drop off of 8.00 am – 9.30 am and 4 heavy vehicles per hour during school afternoon pick up of 2.30pm to 4.00pm. 	No truck and dog heavy vehicles during school morning drop off period of 8.00 am to 9.30 am
Johnston Street – truck and dog heavy vehicles southbound	State	One-way movement from The Crescent, Johnston Street and Parramatta Road	<ul style="list-style-type: none"> Spoil heavy vehicles – truck and dog (excludes spoil from tunnelling) 	<ul style="list-style-type: none"> A maximum of 28 per day at peak construction, with a maximum of 7 heavy vehicles per hour and no heavy vehicles during school morning drop off of 8.00 am – 9.30 am and 4 heavy vehicles per hour during school afternoon pick up of 2.30pm to 4.00pm. 	Limit of 4 heavy vehicles per hour during school afternoon pick up time period of 2.30pm to 4.00pm
LOCAL ROADS – additional restrictions apply for local road use as Secondary Restricted routes.					
James Craig Road / Sommerville Road	LOCAL ROAD	Two-way movements along The Crescent, James Craig Road, Sommerville Road into the Project site Refer to Figure 10 for route direction information	<ul style="list-style-type: none"> Spoil heavy vehicles (includes truck and dog heavy vehicles) High frequency deliveries Other heavy vehicles Large Span deliveries 	<ul style="list-style-type: none"> A maximum of 380 heavy vehicle movements daily would use these roads to access and egress the site. 	

Gordon Street (south of Lilyfield Road)	LOCAL ROAD	Gordon Street, within the Project footprint	<ul style="list-style-type: none"> Spoil heavy vehicles (includes truck and dog heavy vehicles) High frequency deliveries Other heavy vehicles Large Span deliveries 	This road is classified as a local road and a portion of the street will be permanently closed to allow for construction of the Project. This part of the road is located within the Project footprint and therefore consideration of CoA E51 is not required.	
Hornsey / Gordon Street	LOCAL ROAD	Two way movements from Lilyfield Road or Victoria Road via Gordon Street and Hornsey Street Refer to Figure 12 for route direction information	<ul style="list-style-type: none"> Spoil heavy vehicles (includes truck and dog heavy vehicles) High frequency deliveries Other heavy vehicles 	<ul style="list-style-type: none"> total of 14 two-way heavy vehicle movements per day (maximum 4 per hour) between 7.00am to 6.00pm total of 2 heavy vehicles as construction demobilisation occurs 	No use on Sundays during St Joseph's Catholic Church Sunday worship period.
Brenan Street	LOCAL ROAD	Two way movements from Catherine Street to/from Brenan Street Refer to Figure 13 and Figure 14 for route direction information	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog heavy vehicles) High frequency deliveries Other heavy vehicles 	<ul style="list-style-type: none"> 20 heavy vehicles on average with a maximum of 40 heavy vehicles during peak construction. 	Note use of Brenan Street to exit the Whites Creek Link Bridge site and travel south towards Moore Street is subject to a maximum of 22 heavy vehicles, with a maximum of 6 heavy vehicles per hour as outlined in the rows above.
Byrnes Street	LOCAL ROAD	Refer to Figure 15 for route direction information	<ul style="list-style-type: none"> Spoil heavy vehicles (no truck and dog heavy vehicles) High frequency deliveries Other heavy vehicles 	From 7.00am to 6.00pm a cumulative total of 42 two-way heavy vehicle movements per day across all the above local streets is approved for heavy vehicle use.	-
Clubb Street	LOCAL ROAD				Clubb Street will be closed permanently as a result of the Project, therefore, there will be no public access to the portion of the street within the Project footprint, which is required by heavy vehicles.
Callan Street	LOCAL ROAD				Callan Street will be intermittently and temporarily closed to enable construction of permanent works across Callan Street. Toelle Street will be kept open whenever a temporary closure at Callan Street is in place. When Callan Street is closed to public access heavy vehicles can enter the site from Victoria Road.
Toelle Street	LOCAL ROAD				Toelle Street will be intermittently and temporarily closed to enable construction of permanent works across Toelle Street. Callan Street will be kept open whenever a temporary closure at Toelle Street is in place.
Manning Street	LOCAL ROAD				-
McCleer Street / Springside Street	LOCAL ROAD				-



Figure 11 James Craig / Sommerville Road



Figure 12 Hornsey Street and Gordon Street



Figure 13 Catherine and Brennan Street – entry



Figure 14 Catherine and Brennan Street – exit. Note the route proceeding down Catherine and along Moore Street is subject to a differing heavy vehicle maximum limit being 22 heavy vehicles per day, maximum 6 heavy vehicles per hour.



Figure 15 Iron Cove Local Road Overview

5.2.3. Spoil haulage management

Spoil would be transported by approved truck companies, who are responsible for complying with the Project Spoil Management System. Spoil transport would be conducted such that it complies with the Project documentation, including Codes, Regulations and contractual documentation.

Consistent with CoA A44, all vehicles contracted to haul spoil will be required to be clearly marked as being for WestConnex M4-M5 Link (including CSSI application number SSI 7485) in such a manner to enable immediate identification within at least 50m of the vehicles; 140-point font.

Consistent with CoA E53 the location of all construction spoil haulage vehicles will be monitored in real time using GPS tracking. The tracking will enable JHCPB to monitor and scrutinise truck movements for the disposal of spoil waste offsite to one of the nominated disposal or licenced contaminated waste disposal sites. Records of monitoring will be made available electronically to the Secretary and the EPA upon request for a period of no less than one year following construction.

5.2.4. Other heavy vehicle routes

Other heavy vehicles used for low frequency deliveries (e.g. garbage removal, delivery of office supplies) or infrequent deliveries (e.g. mobilisation and demobilisation of plant and equipment) or small quantities of excavated material from utilities, utilities mobilisation or street sweeping, have not been defined as spoil heavy vehicles or high frequency delivery heavy vehicles and may not be

able to adhere to the haulage routes identified in Sections 5.2. Due to the highly urbanised setting of the Project, the scope of construction activities to be undertaken, and the variety of locations from which the other heavy vehicles will travel to and from, these other heavy vehicles may be required to use roads not shown in Sections 5.2. The use of these roads would be short term and would be utilised during a variety of construction activities, including:

- To undertake utilities activities
- To assist with decommissioning activities (see Section 5.14),
- To construct cul-de-sacs at Byrnes Street and Clubb Street, Rozelle,
- To construct new intersections at the corners of Victoria Road and Toelle Street and Victoria Road and Callan Street,
- To construct cul-de-sac at Hornsey Road, Rozelle,
- To construct a temporary pedestrian path on James Craig Road,
- To construct drainage at Buruwan Park (Rozelle Bay Light Rail),
- To construct the pedestrian bridge, near Catherine St at Rozelle, and
- To allow approved demolition of heritage items.

Other heavy vehicle movements in these cases would generally be of a short duration or of an infrequent nature in response to a specific work activity or access constraint. For other heavy vehicle routes, JHCPB would utilise the road preference identified in Section 4.4.1. The requirements of CoA E51 will be implemented for any local roads as detailed in Section 4.6.

5.2.5. Over dimensioned vehicles

All over dimensioned vehicles utilised on the Project would be procured through specialist haulage contractors. They would abide by the permits obtained from RMS' Special Permits Unit "*Special permits for oversize and over mass vehicles and loads*" (2007) document outlines the various operating restrictions and conditions. Some permits may also require co-ordination with the NSW Police, and would be co-ordinated by the specialist haulage contractors.

The day-to-day construction works at each Project site would be organised to minimise the impact on the existing road network.

5.2.6. Truck management strategy

JHCPB would establish and operate a Temporary Traffic Control Room (TTCR). The TTCR would assist in the overall truck management strategy by performing a range of tasks that focus on truck queuing, truck marshalling, truck circulation, traffic monitoring and incident detection. Further details of the TTCR are outlined in Section 5.12.

The truck marshalling area within Rozelle civil and tunnel site has been designed to allow trucks to arrive at a safe and secure area to park up before arriving at spoil shed for loading. This allows for smoothing of irregular flows caused by traffic lights and traffic conditions and would assist in staggering the arrival of vehicles to site, preventing queuing and parking of heavy vehicles on public roads in the vicinity of Rozelle civil and tunnel site.

The truck marshalling area is located within the Rozelle civil and tunnel site, near to the Victoria Road and The Crescent intersection. The dedicated area is 80m long by 7m wide and is able to accommodate up to eight truck and dogs at a time. Additional stacking capacity is also available on internal roads within the site.

In the case when trucks would be required to layover on either side of the internal road, provision of two roundabouts would allow spoil trucks to turn around to access the allocated spoil sheds to begin haulage operations.

Haulage superintendents would be tasked with coordinating vehicles, utilising radios and GPS tracking to maximise just in time arrival and adjust truck flows with changes in local traffic conditions.

Section 5.13 outlines the types of traffic management documentation that would be used to assist in truck management.

5.3. Road maintenance

5.3.1. Dilapidation reports

JHCPB proposes to undertake road dilapidation surveys on public local roads (and James Craig Road / Sommerville Road) before they are used by heavy vehicles for works associated with the Project and following completion of the works. These surveys would include pavement strength testing, determination of pavement life, cracking and rutting surveys, and road inventory.

The pre-condition reports would include a written survey, photos and/or video of each road. A copy of the report shall be provided to the relevant roads' authority (local council or RMS) within three weeks of completing the surveys and no later than one month prior to the commencement of roads being used by construction vehicles.

5.3.2. Repair & restore

In accordance with CoA E62, if damage to roads occurs as a result of the construction of CSSI, JHCPB must either:

- a) compensate the relevant road authority for the damage so caused. The amount of compensation may be agreed with the relevant road authority, but compensation must be paid even if no agreement is reached; or
- b) rectify the damage so as to restore the road to at least the condition it was in pre-construction.

Temporary alignments installed by JHCPB through the Traffic and Management Plan (TMP) process will be monitored and maintained, as well as existing infrastructure inspected.

5.4. Road occupancy

JHCPB shall obtain the necessary approvals and concurrence of the relevant road authority, prior to conducting any works on the road or the road reserve.

The three specific areas of approval will include:

- All development works within the road reserve and/or any changes to existing infrastructure,
- The installation and/or changes of any regulatory traffic control device., and
- Occupation of the road to conduct works, and the associated installation of temporary traffic control devices.

5.4.1. RMS Road Occupancy Licensing (ROL)

A Road Occupancy Licence (ROL) authorises the occupation of a portion of the road that would normally be available to traffic. Except in the case of an unplanned incident, or when directed by the Police or other Emergency Services, a Road Occupancy Licence must be obtained for any work which:

- Slows, stops or otherwise delays or affects the normal flow of traffic,
- Diverts traffic from its normal course along the road, including lane closures and detours, and

- Occupies any portion of the road related area, including the footpath that is normally available for vehicular, pedestrian or bicycle movement.

Applicants are required to prepare submissions for Road Occupancy Licences, which will be submitted to the Traffic Management Centre (TMC). Roads and Maritime and/or Council will grant or reject the application.

Road Occupancies will comply with the TCPs for the specific areas.

The traffic control arrangements must provide sufficient capacity to accommodate the expected traffic volumes during the period of occupancy (noting that some exclusions may apply during special events and during holiday periods as communicated by the TMC). The overall coordination of ROLs is managed by TMC.

JHCPB will obtain an approved ROL prior to the commencement of any works on or near a State road except in the case of an emergency, or when directed by Police or Emergency services. ROL applications will be submitted in accordance with Road Occupancy Licensing Guidelines.

The ROL application will be forwarded to 'TMC Planned Incident Unit' to process the application. All ROLs will comply with the overarching road safety and traffic management principles, objectives and targets outlined in the TTAMP.

For all works on road and path networks, JHCPB will comply with the 'RMS Road Occupancy License Guidelines' for the preparation and submission of ROL applications to obtain the relevant licences and/or permits. These licences and/or permits include ROLs from the TMC. These licenses/ permits will be obtained in advance of the works, and TCP will only be implemented when the licenses/ permits allow, typically out of normal construction hours.

ROL through the TMC will be applied for 10 business days from the requirement. Electronic lodgement of the ROL will be undertaken using RMS' Plink system. Council permits will be lodged in accordance with the various Council timelines. If an ROL is rejected by council, RMS may be able to exercise Road Occupancy under Roads Act 1993. A register of permits/ licenses will be maintained through the Works period.

5.4.2. Local road lane changes

JHCPB will consult with relevant Councils as required prior to the installation of temporary traffic controls/devices and/or occupying the local road network. Information provided to Council will include:

- Brief details of the works to be undertaken,
- Any relevant design drawings of the works,
- Program of the works,
- Copies of TCPs,
- If applicable, details of Speed Zone Authorisation (SZA),
- Contact details of a construction Site Representative, and
- Traffic modelling, if required.

Special consultation will be undertaken with local councils (as required) and local residents regarding instances of special deliveries such as:

- Major bridge segments,
- Oversize cranes or plant, and
- OMCS delivery of structures such as fixed VMS pillars, camera poles and boards at various locations.

While Council may be the road authority to approve and issue road occupancy permits on council roads, all works relating to the project must include ROL approvals from TMC.

5.5. Speed management

Temporary roadwork speed limits are one of many traffic controls that JHCPB will implement to manage the speed of traffic approaching and passing through a work site. JHCPB is conscious of the potential for speed reductions over long distances, to have negative impacts on road user travel times.

JHCPB will implement Roadwork Speed Zones logically, credibly and capable of being enforced by the NSW Police Force.

When considering the use of a roadwork speed zones, JHCPB will:

- Ensure they are clearly delineated and capable of being enforced,
- Position speed signs away from other traffic control signs and devices, and
- Ensure they are used only while road works are in progress or the lower speed road conditions exist.

5.5.1. Speed Zone Authorisation (SZA)

An application to Roads and Maritime / TMC will be made for any proposed adjustment to speed limits whether they are temporary (tactical), such as those required for short-term road occupancies, or longer term such as those for the duration of a construction stage or permanent.

A Speed Zone Authorisation (SZA) application usually accompanies a ROL application where a change in speed limit is proposed as part of road occupancy. The SZA application, available online from the RMS website, will be forwarded to the 'TMC Planned Incident Unit' a minimum of 10 working days before it is required for all short-term ROL associated SZAs.

SZAs required to reduce the speed of a section of road for greater than one shift, will be forwarded to the Speed Management Unit of Roads and Maritime for consideration. This application will be corroborated by scale drawings of the position and size of speed signage proposed.

JHCPB will undertake to provide specific timings for the decrease and subsequent increase of speed zones along the Projects road network.

5.5.2. Construction Speed Zone

As per the Traffic Control at Worksites (TCWS) Manual, in order to maintain the current speed limits through some of the work zones, the use of safety barriers will be required to protect work and workers.

When night works are required, special consideration will be taken to determine changes in the speed limit depending on the location and type of works.

As per TCWS Manual, when working adjacent to traffic in side streets the speed limit selection will be based on the following criteria:

- Degree of vehicular and pedestrian conflicts,
- Type and extent of the work, and
- Characteristics of the road and proximity of workers to passing traffic.

The following strategies may be implemented to enforce speed limits:

- Utilisation of existing speed cameras, if available,
- Use of Speed Advisory Boards or 'speed check' speed advisory signs which records and flashes the speed a driver is travelling at, then switches to 'Slow Down' if the driver has exceeded the speed limit,
- If required, involve police presence to enforce speed as per TDT 2009/07 (Technical Direction – Police Speed Enforcement or Presence on RMS Work Sites). The Traffic Manager should contact the Police Traffic Coordinator at an early stage of the Project.

- Enforcement might include marked police vehicles patrolling the construction site and/or the inclusion of a stationary marked police vehicle with an operating flashing blue light positioned within the construction area or, provision of police enforcement facilities, and
- Use of portable Variable Message Signs to enhance advanced warning sign posting and provide changed traffic condition information to road users.

5.6. Signposting and delineation

During the Project Works, there will be impacts on the existing road network information and distance information signage.

Signposting and delineation is an important aspect of road safety and traffic management. Regulatory signs control specific traffic movements, warning signs give advance notice of traffic hazards, road markings (and pavement markers) provide delineation and reinforce signage, guide signs give advance guidance and advice of routes and destinations which assist all drivers to make clear, early decisions.

Signage associated with property access, local community access and businesses will be considered during the detailed design and implementation of temporary traffic management schemes and any impacts addressed to ensure the appropriate information for road users is effectively communicated at all times.

Construction staging, and temporary works will efficiently manage conflicts with the existing road network and maximise spatial separation between work areas and travel lanes. Work areas are to be isolated from general traffic through the implementation of appropriate traffic and access controls.

5.6.1. Directional, information and regulatory signposting

The installation of directional, information and regulatory signposting would accompany any changes to the existing road networks.

JHCPB would design, supply, install and maintain direction, information and regulatory signs and structure required for the project, including any modification that are required to existing signs and sign structures. The design, manufacture and installation of the signs and sign structure would be in accordance with the RMS standards, Australian Standards AS1742 Manual for Traffic Control Devices.

In addition to the sign posting requirements stipulated in RMS's Traffic Control at Worksites Manual and the Australian Standards, JHCPB would apply the following sign posting parameters:

- The minimum size of signs used on the Project would be Type B,
- Consideration would be given to the installation of short-term signs on permanent posts with secure covers, where works occur in the same location on a regular basis,
- JHCPB would provide sign designs to RMS to review and approve in sufficient time to allow for manufacture and installation to meet project requirements, and
- JHCPB would conduct detailed reviews of all short and long-term signage with the aim to ensure a clear and concise message is given to approaching road users, without creating sign clutter.

All signposting changes would be detailed in the TMP and TCP. JHCPB would:

- Integrate the signage changes into the existing road network,
- Liaise with authorities and agencies to determine issues, opportunities and constraints during the development of any directional signposting changes,
- Submit details of any installation or changes to signposting during the Works within the TMP/TCP. This includes scaled plans showing the locations of existing and new or modified signposting in all directions,

- Install and cover new directional signs prior to opening of a new construction stage,
- Cover or change existing signposting that shows incorrect information during or immediately following the introduction of the new traffic arrangements,
- Remove any signs that are superseded as a consequence of the works as noted in the TMP/TCP, and
- Reinstall all directional signposting at the completion of the works.

Project branding and signage would be installed as agreed with RMS, including Project identification signs to acknowledge State and Federal Government initiatives. Other signage to be installed includes the numerical identification of structures as agreed with RMS.

JHCPB would conduct detailed reviews of all short and long-term signage with the aim to ensure a clear and concise message is given to approaching road users, without creating sign clutter.

Temporary works designs, including signs, are issued to RMS and the D&C Independent Certifier for approval. The D&C Independent Certifier would give their approval once RMS have signed off.

5.6.2. Delineation

Delineation of any intersection layout changes would comply with the requirements of RMS Traffic Control at Worksites and other standards and would be detailed in the individual TMP and TCP.

Line marking would be undertaken in accordance with the relevant Codes and Standards, including RMS QA Specification, R145 (Pavement Marking) and R142 (Retroreflective Raised Pavement Markers), RMS Guide to “Delineation Manual” 2014 and AS 1742 Manual of uniform control devices. Temporary works designs are issued to RMS and the independent certifier for approval.

Mitigation measures for pavement deterioration would be considered through a Road Safety Audit, which could include sprayed seal surface over affected areas of line removal.

Where works have been completed but the final asphaltting works have not commenced, and where it is safe to do, the original or ultimate line marking may be installed, subject to the agreement of the road authority.

5.6.3. Variable Message Signs

JHCPB considers VMS an effective traffic management tool. During construction JHCPB would utilise portable and permanent VMS to provide advanced warning and changed traffic condition information to road users. The use of VMS and the appropriate message/s would be incorporated within a TMP and/or site-specific TCPs.

JHCPB would apply to TMC for VMS to be installed with approved messages in accordance with the TMC’s VMS Policy. It is understood that messages related to the project (advance warning or otherwise) are second to incident response messages and that the decision to display the appropriate messages remains with TMC.

The Traffic Team would co-ordinate and deploy portable trailer mounted VMS to allow as much advance warning as possible, as well as set TMC agreed and approved messages in accordance with the TMC’s VMS Policy. VMS devices utilised on the Project would comply with RMS’s specifications.

5.6.4. Flashing Arrow Signs

Flashing Arrow Signs (FAS) are mainly used when closing traffic lanes and conducting mobile traffic control operations.

When stipulated by the TCP, JHCPB would implement FAS in accordance with Section 3.12 of the AS 1742.3 and Annexure D of the RMS’s TCAWs manual. Where applicable, FAS would comply

with the RMS equipment requirements FAS/4 and be controlled by a trained sub-contractor traffic control team member.

5.6.5. Traffic signals

Traffic signals would conform to the requirements of RMS specifications. The design and approval requirements for traffic signals are included within the TMP, TCP and ROL's as described in Section 5.4.1 and 5.13.2.

A modified Traffic Control Signal (TCS) plan would be prepared to comply with the requirements specified in RMS Traffic Signal Design Section 3 Design Process (2016) and Section 4 Plan Requirement (2008). The modified TCS would show the proposed changes to the intersection layout, traffic signal phasings, location and type of lanterns, posts, detector specification and signal group phase chart.

A modified cabling installation plan would also be prepared, where required, to detail the installation of underground cable ducting for the operation of traffic signals.

The TCS and cabling plans would be prepared by a qualified traffic signal designer for submission to RMS Parramatta traffic signal team to review and promptly comments in order that amendments for implementation and safe traffic control can be applied.

5.7. Pedestrians and cyclists

In accordance with CoA E57, safe pedestrian and cyclist access will be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.

Section 5.7.1 and 5.7.2 outline how JHCPB will manage pedestrian and cyclist impacts in accordance with relevant CoA and REMMs.

Section 5.7.3 identifies long-term pedestrian and cyclist impacts and associated management and mitigation measures.

A pedestrian and cycle implementation strategy will be prepared in consultation with relevant council(s) and Bicycle NSW in accordance with CoA E60. The strategy will be included as a component of the Urban Design and Landscape Plan and will be submitted to the Secretary for approval one month prior to construction of permanent built surface works that are the subject of the Urban Design and Landscape Plan or earthworks for the final surface contouring of the Rozelle Rail Yards open space, whichever is sooner.

Traffic management plans for each traffic stage of the works will be prepared describing the nature of traffic changes. As described in Section 5.13.2, the TMP will be prepared by a qualified member of the JHCPB Traffic Team and be signed off by the Traffic Manager before forwarding to the Traffic Co-ordination Group (TCG) for review. Where the work impacts on council areas, the relevant council will be consulted prior to implementation. Key stakeholders will also be provided a copy of the approved TMP for their information and overview. A Traffic Control Plan (TCP) and a VMP diagram will also be developed for each work site.

5.7.1. Pedestrians

JHCPB would manage pedestrians, to and from bus stops, light rail stations, car parks, businesses, homes and any directly affected schools during construction in accordance with CoA E57. JHCPB recognises the importance of giving consideration to all road users.

JHCPB would identify pedestrian needs by considering:

- Impact of construction works on existing pedestrian footways,
- Number of pedestrians,
- Type of pedestrian activity: office, retail, residential, school or recreational,
- Origin and destination points of the pedestrians and their desired travel path,
- Existing needs of vulnerable pedestrians, such as young children, the elderly, vision impaired, disabled people, people with prams and trolleys, and
- Proximity of pedestrian generating developments, such as schools, shopping centres, bus stops/layovers, recreation areas; particularly The Bay Run, King Georges Park for especially for children and Victoria Rd crossings related to bus stops.

Diversion of pedestrians would be considered during the development of TMPs and Pedestrian Movement Plans (PMP). This would show the allocated paths and pedestrian crossing facilities for each stage of the works that impact on pedestrian travel routes. JHCPB would install relevant barriers to segregate works from pedestrian paths and/or pedestrians from traffic flows, where required. All barriers would be maintained and appropriately secured while in use.

JHCPB would consult with the Traffic Coordination Group (TCG) (refer Section 5.13.2 and 6.2.1) during the review and approval process of the relevant Traffic Management Plan. Where the work impacts on council areas, the relevant council will be consulted prior to adjusting any existing pedestrian crossing facility or the implementation of any new temporary facility.

JHCPB will maintain safe current formal and informal pedestrian connectivity and functionality provided within and directly adjacent the Project. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards will be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.

JHCPB would manage the pedestrian desired travel paths with temporary footpaths that comply with the requirements of Austroads Guide to Road Design Part 6A: Pedestrians and Cycle Paths, RMS Traffic Control at Worksites Manual and AS 1742.3. Prior to work commencing on State and local roads, where the pedestrian access may be affected, JHCPB would provide alternate pedestrian access routes that are clearly signed and delineated in accordance with all safety requirements.

Alternate routes would aim to minimise inconvenience to pedestrians with the primary goal of maintaining clear space between pedestrians and active work areas. This would be addressed in site specific TMPs prior to the construction activities commencing.

JHCPB would implement the following measures when providing alternate pedestrian routes to minimise impacts on mobility impaired pedestrians:

- Clearly defined temporary footpath arrangements by using appropriate signage,
- Sufficient space for wheelchair access,
- Smooth, even surface on all temporary footpaths and crossings,
- Regular inspections to maintain footpaths free of trip hazards, and
- Minimisation of grades for wheelchair use.

5.7.2. Cyclists

Access for cyclists would be maintained at all times during the construction works and where required, a temporary alternative route detour would be provided and signposted in accordance with CoA E57. The specific controls implemented at each site location would be dependent on the traffic staging, the volume of traffic, cyclists and pedestrians at each affected location. Cyclist detour would be shown in the TMP, TCP and PMP for each stage of the works that impact on cyclist travel routes.

All cyclist facilities would be designed to meet relevant guidelines including the Austroads Guide to Traffic Management. The following sections discuss the identified impacts on pedestrians and cyclists at the Rozelle Interchange and Iron Cove Link, and key management measures to manage these impacts.

JHCPB would manage cyclist wayfinding via temporary routes that comply with the requirements of AS 1742 Part 9 – Bicycle Facilities, Austroads Guide to Traffic Management Part 10 and AS 1743 – Road Signs Specifications.

Where alternate routes are implemented, they will be appropriately signed and marked. Any changes will be communicated to council and project representatives at least one week prior to implementation.

Cyclists on local/urban roads would typically utilise shoulders or dedicated paths where they exist. There are no identified dedicated cycle facilities on the roads or footpaths currently proposed to be impacted by the precinct traffic management controls or site access arrangements. Cyclist movements at site access points will be managed to maximise cyclist safety.

5.7.3. Alternate pedestrian and cyclist arrangements

Long-term pedestrian and cyclist impacts and associated management and mitigation measures have been identified and summarised in Table 10 to Table 16. Figure 18 to Figure 22 Pedestrian and cyclist routes - South side of Victoria Road Between Springside Street and Byrnes Street will be detailed within the traffic management plans for each stage of the works. A program of works for each stage is outlined in Section 5.1.1.

Table 10 Impacts on pedestrians and cyclists – The Crescent East

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
The Crescent East	Stage 1*	Changes in road alignment, intersection relocation, establishment of construction site, construction of new shared path	Pedestrians and cyclists will not be able to use the east side of the path on the Crescent between City West Link and Johnston Street.	Pedestrian and cyclist access along the shared path in the Crescent would be maintained on the west side of the road.	Wayfinding signage to bus stops and light rail station. Monitor impacts during shift.

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
		Modification to the signalised intersection of Chapman Road, Johnston Street and The Crescent South, including: Relocation of the signalised pedestrian crossing in The Crescent South (northern leg) within the vicinity of the existing crossing.	The distance across The Crescent South will be shorter in the proposed layout. Pedestrians are to cross two travel lanes to cross in the southern leg, as opposed to four lanes in the northern leg under the existing layout Walking distance from the north side of Chapman Road to the west side of Johnston Street will increase from 40m to 140m. The walking route will be via four signalised pedestrian crossings, as opposed to one signalised pedestrian under the existing intersection layout.	Changes to signalised pedestrian crossings at the intersection of Chapman Road, Johnston Street and The Crescent South include: Relocation of the signalised pedestrian crossing in The Crescent (northern leg) within the vicinity of the existing crossing,	Improved footpath network by formalising the unsealed footpath.

Table note: * Refer to Figure 9 for staging program.



Figure 16 Pedestrian and cyclist routes - The Crescent East

Table 11 Impacts on pedestrians and cyclists – The Crescent East and West

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
The Crescent South (East and West)	Stage 2*	Changes in road alignment, intersection relocation, establishment of construction site, construction of new shared path	Pedestrians and cyclists will not be able to use the east and west side of the path on the Crescent between City West Link and Johnston Street.	Pedestrian and cyclist access along the shared path in the Crescent would be maintained on part of the west side of the road.	Wayfinding signage to bus stops and light rail station. Monitor impacts during shift.

Table note: * Refer to Figure 9 for staging program.



Figure 17 Pedestrian and cyclist routes - The Crescent East and West

Table 12 Impacts on pedestrians and cyclists – The Crescent Buruwan Park

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
The Crescent Buruwan Park	Stage 1*	Relocation of the City West Link and The Crescent intersection.	Pedestrian and cyclist access will be closed through Buruwan Park	Alternative access to the Rozelle Bay light rail stop from The Crescent South, Johnston Street and Bayview Crescent will be provided at all times during construction. An alternate route will be provided, however an accessible route will also be available via Johnston Street, Kentville Street and Pritchard Street or via Johnston Street and Bayview Crescent.	Wayfinding signage to bus stops and light rail station. Monitor impacts during shift.

Table note: * Refer to Figure 9 for staging program.



Figure 18 Pedestrian and cyclist routes - The Crescent Buruwan Park

Table 13 Impacts on pedestrians and cyclists - The Crescent Buruwan Park

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
The Crescent Buruwan Park	Stage 3*	Relocation of the City West Link and The Crescent intersection.	Pedestrian and cyclist access will be opened through the old Buruwan Park. Temporary ramp	Alternative access to the Rozelle Bay light rail stop from The Crescent, underneath the light rail bridge and onto Bayview	Wayfinding signage to bus stops and light rail station. Monitor impacts during shift.

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
			along the mural wall removed.	Crescent will be provided at all times during construction. An accessible route will also be available via Johnston Street, Kentville Street and Pritchard Street or via Johnston Street and Bayview Crescent.	

Table note: * Refer to Figure 9 for staging program.



Table 14 Impacts on pedestrians and cyclists – Signalised pedestrian crossing at the Victoria Road and Terry Street intersection

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
Signalised pedestrian crossing at the Victoria Road and Terry Street intersection	Stage 1 – Stage 3*	Construction of tunnel portal, changes in road alignment, widening of Victoria Road	The signalised pedestrian crossing in Victoria Street at the Terry Street intersection will be closed.	Pedestrians are to be diverted to the existing signalised crossing at the Victoria Road and Wellington Street intersection located 260m east of Terry Street.	Wayfinding signage to bus stops and light rail station. Monitor impacts during shift.

Table note: * Refer to Figure 7 for staging program.



Figure 19 Pedestrian and cyclist routes - Signalised pedestrian crossing at the Victoria Road and Terry Street intersection

Table 15 Impacts on pedestrians and cyclists – Hornsey Street and Victoria Road pedestrian/cyclist bridge removal

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
Hornsey Street	Stage 1*	Changes in road alignment, establishment of construction site and construction of new cul de sac	Pedestrians and cyclists will not be able to access Victoria Road from Hornsey Street during construction works for the Victoria Road civil site. Pedestrian and cyclist diversions along Hornsey Street are only required until the end of Q4 2020 when the cu-de-sac at Hornsey Street is completed.	Pedestrian and cyclist access along Hornsey Street would be maintained. As can be seen in Figure 17, alternate routes to access Victoria Road are provided through out the construction of the cul-de-sac.	Wayfinding signage to bus stops and light rail station. Monitor impacts during shift. Temporary pedestrian fencing will be installed in those locations where existing fencing / barriers are not present to prevent any mid-block attempts for crossing Victoria Road.
Victoria Road pedestrian/cyclist bridge removal and temporary removal of cyclepath along City West Link	Stage 1*	Removal of Victoria Road over pass bridge currently used for pedestrian and cyclist access. This will include the temporary closure of the cycle path located adjacent to City West Link until end of Q3 2020. The removal of the over pass bridge is required to enable the reconstruction of Victoria Road at the intersection of Victoria Road and The Crescent. The temporary closure of the cycle path is required to construct the completion of the cycle path around the Rozelle Rail Yard Project site.	<p>Pedestrians and cyclists will no longer be able to utilise the direct connection from Lilyfield Road across Victoria Road until the permanent solution is constructed.</p> <p>Cyclists will not be able to utilise the pathway along City West Link from the end of Q1 2020 to the end of Q3 2020 until the cycle path around the Project is completed.</p>	<p>Pedestrian and cyclist access to Victoria Road to travel north bound and city bound will be provided via a number of alternate routes.</p> <p>As can be seen in Figure 17, alternate routes to access Victoria Road and the city via Anzac Bridge are provided throughout the reconstruction of Victoria Road.</p>	<p>Wayfinding signage to bus stops and light rail station. An Independent Traffic Safety Audit was undertaken in December 2019. All findings from the audit will be implemented.</p> <p>Monitor impacts during shift.</p> <p>Temporary pedestrian fencing will be installed in those locations where existing fencing / barriers are not present to prevent any mid-block attempts for crossing Victoria Road.</p> <p>Vegetation along the shared path junction on the western approach to Anzac Bridge will be monitored to ensure sight distance between pedestrians and cyclists is not impeded.</p> <p>“Slow” zone cross hatched markings will be installed:</p> <ul style="list-style-type: none"> in both directions to mitigate the hair pin bend on the shared user path beneath the western approach to Anzac Bridge. in both directions behind the newly installed bus shelter along Victoria Road <p>Safety control measures as part of the proposed change will be designed and installed to meet relevant design</p>

					<p>guidelines including the Austroads Guide to Traffic Management as relevant.</p> <p>Traffic management and control devices to be installed include cyclist signposting and cyclist pavement marking compliant with AS-1742 and the Manual of Uniform Traffic Control Devices for on-road shared cyclist facilities and Austroads Guide to Road Design, Road Design Part 6A Pedestrians and cycle path.</p> <p>Appropriate signposting and pavement markings will be installed to advise of road changes for the on-road shared cyclist facility.</p>
Beatrice Bush bridge pedestrian/cyclist bridge removal and re-instatement of shared user path along the northern side of City West Link	Stage 2*	<p>Removal of Beatrice Bush over pass bridge in Q3 to Q4 2020 currently used for pedestrian and cyclist access.</p> <p>Prior to the removal of the Beatrice Bush bridge, the approved shared user path along City West Link will be open.</p>	<p>Pedestrians and cyclists will no longer be able to utilise the Beatrice Bush over pass bridge until the permanent solution is constructed.</p> <p>Cyclists and pedestrians will be diverted at road-level to existing signalised intersections and the new approved shared user path between Victoria Road east and connecting to ANZAC bridge along the northern extent of Victoria Road/ ANZAC bridge Approach.</p>	<p>Pedestrian and cyclist access to Victoria Road to travel north bound and city bound will be provided via a number of alternate routes.</p> <p>As can be seen in Figure 17, alternate routes to access Victoria Road and the city via Anzac Bridge are provided throughout the reconstruction of Victoria Road.</p>	<p>Wayfinding signage to bus stops and light rail station. An Independent Traffic Safety Audit was undertaken in December 2019. All findings from the audit will be implemented.</p> <p>Monitor impacts during shift.</p> <p>Temporary pedestrian fencing will be installed in those locations where existing fencing / barriers are not present to prevent any mid-block attempts for crossing Victoria Road.</p> <p>Safety control measures as part of the proposed change will be designed and installed to meet relevant design guidelines including the Austroads Guide to Traffic Management as relevant.</p> <p>Traffic management and control devices to be installed include cyclist signposting and cyclist pavement marking compliant</p>

					<p>with AS-1742 and the Manual of Uniform Traffic Control Devices for on-road shared cyclist facilities and Austroads Guide to Road Design, Road Design Part 6A Pedestrians and cycle path.</p> <p>Appropriate signposting and pavement markings will be installed to advise of road changes for the on-road shared cyclist facility.</p>
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Table note: * Refer to Figure 7 for staging program.



Figure 20 Stage 1 Pedestrian and cyclist routes – Hornsey Street and Victoria Road bridge removal



Figure 21 Stage 2 Pedestrian and cyclist routes –Beatrice Bush bridge removal and shared user path re-instatement

Table 16 Impacts on pedestrians and cyclists – South side of Victoria Road Between Springside Street and Byrnes Street

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
South side of Victoria Road Between Springside Street and Byrnes Street	Stage 1*	Construction of tunnel portal, changes in road alignment, widening of Victoria Road.	The shared path on the south side of Victoria Road will be closed temporarily between Springside Street and Byrnes Street.	<p>A temporary pedestrian detour path will be provided along the rear of the Iron Cove link project boundary via Springside Street, McCleer Street, Callan Street, Manning Street, Toelle Street and along the surface works boundary (between Toelle Street to Byrnes Street).</p> <p>The pedestrian detour will result in an increase of 60m walking distance as compared with the existing shared path along Victoria Road.</p> <p>A temporary bicycle detour path will be provided via Springside Street, McCleer Street, Callan Street, Manning Street and Byrnes Street. The temporary cyclist detour will result in an increase of 360m cycling distance as compared with the existing shared path.</p> <p>The Bay Run pedestrian path will remain open, traffic controllers will be in place where vehicles are required to pass between site gates. Refer to Section 5.7.4 for additional information on the Bay Run.</p>	<p>Wayfinding signage to bus stops and light rail station.</p> <p>Monitor impacts during shift.</p> <p>Traffic controllers in place along the Bay Run.</p>
South side of Victoria Road Between Springside Street and Byrnes Street	Stage 2*	Construction of tunnel portal, changes in road alignment.	The shared crossing at Terry Street will be temporarily removed.	<p>An alternate crossing is available underneath the Iron Cove Bridge or further east at Wellington St.</p> <p>A temporary bicycle detour path will be provided via Springside Street, McCleer Street, Callan Street, Manning Street and Byrnes Street. The temporary cyclist detour will result in an increase of 360m cycling distance as compared</p>	<p>Wayfinding signage to bus stops and light rail station.</p> <p>Monitor impacts during shift.</p> <p>Traffic controllers in place along the Bay Run.</p>

Location	Duration	Reason for change	Impact	Alternate route	Additional mitigation measures
				with the existing shared path. The Bay Run pedestrian path will remain open, traffic controllers will be in place where vehicles are required to pass between site gates. Refer to Section 5.7.4 for additional information on the Bay Run.	

Table note: * Refer to Figure 8or staging program.



Figure 22 Pedestrian and cyclist routes - South side of Victoria Road Between Springside Street and Byrnes Street

5.7.4. The Bay Run

The Bay Run is an existing shared path that passes along the waterfront through King Georges Park and connects to the Iron Cove Bridge. The Bay Run will remain open throughout construction activities. However, it is noted that pedestrian access to the Bay Run, under the Iron Cove Bridge, will be affected intermittently during construction activities due to utilities works.

The existing Bay Run path passes through the Iron Cove civil site, immediately north of Byrnes Street. Site fencing, consisting of temporary fencing with shade cloth, will be located on either side of the path, and will not encroach upon the existing Bay Run path. The design of the temporary works will be subject to a Safety in Design review, where the principles of Crime Prevention Through Environmental Design (CPTED) are considered.

As indicated in Figure 4, a heavy and light vehicle crossing between areas of the Iron Cove civil site will be required across the Bay Run path. Vehicle crossings between the site gates will be required intermittently and will be undertaken with traffic controllers in place, noting that pedestrians and cyclists have right of way. Traffic controllers will allow site vehicles to cross when there is a break in foot/cycle traffic.

5.8. Public transport

JHCPB will seek to minimise disruption to the current level of service of public transport. JHCPB will stage its works to ensure that appropriate arrangements are made so that public transport patrons can continue to use the network with confidence.

Local bus service companies will continue to be consulted during the construction period to minimise disruption to services via the TTLG process.

In developing its strategy to manage changes to public transport arrangements, JHCPB acknowledges that:

- Access to light rail stops must be maintained at all times (CoA E45),
- New temporary bus stops must have similar capacity and are relocated within 400 m walking distance of the existing bus stop (where feasible and reasonable) (CoA E43),
- New bus stops must be on the same route and in the same direction of the closed bus stop,
- All bus stops temporarily closed or relocated must be reinstated in a manner that provides equal or improved capacity and accessibility to the original (CoA E44), and
- Where a bus stop is being relocated, the original bus stop must not be closed until the relocated bus stop is functioning.

Coaches carrying passengers between Sydney and other destinations utilise the M4 and M5 Motorways, Parramatta Road and Victoria Road. Tourist coach tours and other chartered buses and coaches also utilise these routes on a regular basis, or to a schedule for popular destinations.

Parramatta Road is used by Sydney Trains buses during periods of track works on the adjacent railway lines. Buses frequently move on and off Parramatta Road at various points to access suburban train stations en-route from the CBD to the suburbs and return. Such track works often occur infrequently at night and on weekends, although they may run over a period of a few weeks if required and be in concurrence with construction and haulage associated with the Project.

In accordance with CoA E43 where bus stops are required to be temporarily closed or relocated, such closure will not occur until relocated bus stops are functioning, have similar capacity and are relocated within a 400 metre walking distance of the existing bus stop.

Closures and relocation of bus stops during construction will be undertaken in consultation with Transport for NSW and relevant council(s). Wayfinding signage will be provided directing commuters to adjacent or relocated bus stops. Footpaths must be provided to any relocated bus stops such that accessibility standards are met.

Table 17 through Table 23 shows the strategy for managing impacts on public transport services identified at the Rozelle civil and tunnel site, The Crescent civil site, the Victoria Road civil site and the Iron Cove civil site. Figure 23 to Figure 28 show the existing and alternate bus stops that will be implemented throughout the construction stages of the project.

Changes to bus stops will be in consultation with Transport for NSW in accordance with CoA E43 and REMM TT13, and with the relevant Council (CoA E43).

Table 17 Changes to public transport services - The Crescent (northbound)

Location	Duration	Impacts	Description of public transport management
The Crescent (northbound)	Stage 2*	The existing in-lane bus stop in The Crescent northbound carriageway would be closed due to the site compound located on the west side of The Crescent.	Passengers would be re-directed to the existing bus stop located in The Crescent South, south of Johnston Street. Walking distance to the relocated bus stop is 370m. The bus stop for school services will be located on the northern end of Johnston St. In a subsequent stage, the bus stop would be reinstated close to its existing location in-line with the new road alignment.

Table note: * Refer to Figure 7 for staging program.



Figure 23 Bus stop relocation - The Crescent (northbound)

Table 18 Changes to public transport services - The Crescent (southbound)

Location	Duration	Impacts	Description of public transport management
The Crescent (southbound)	Permanent	The existing in-lane bus stop in The Crescent southbound carriageway would be closed due to the road realignment.	Passengers would be re-directed to a new bus stop located 50m north west of the original bus stop. The new stop is located in the operational position.

Table note: * Refer to Figure 9 for staging program.



Figure 24 Bus stop relocation - The Crescent (southbound)

Table 19 Changes to public transport services - Victoria Road South (northbound) changes to public transport services

Location	Duration	Impacts	Description of public transport management
Victoria Road South (northbound)	Stage 1*	Closure of the existing indented bus stop at Victoria Road northbound carriageway around 20m south of Lilyfield Road due to traffic switch to the temporary pavement.	Passengers would be re-directed to the existing in-lane bus stops on Victoria Road northbound (north of Robert Street) and Robert Street eastbound (east of Victoria Road). Walking distance to the relocated bus stop is up to 180m.
		Closure of the existing indented bus stop at Victoria Road northbound carriageway between Hornsey Street and Lilyfield Road due to traffic switch to the temporary pavement.	Passengers would be re-directed to the existing bus stops on Victoria Road northbound (north of Robert Street) and Robert Street eastbound (east of Victoria Road). Walking distance to the relocated bus stop is up to 220m.

Table note: * Refer to Figure 9 for staging program.



Figure 25 Bus stop relocation - Victoria Road South (northbound)

Table 20 Changes to public transport services - Victoria Road South (southbound)

Location	Duration	Impacts	Description of public transport management
Victoria Road South (southbound)	Stage 1*	Closure of the existing indented bus stop at Victoria Road southbound carriageway due to the construction of the new southbound on ramp into Anzac Bridge.	A new bus stop would be provided on Victoria Road in addition to existing bus stops along Robert Street. Walking distance to the relocated bus stop on Victoria Road is 200m.

Table note: * Refer to Figure 9 for staging program.



Figure 26 Bus stop relocation - Victoria Road South (southbound)

Table 21 Changes to public transport services - Victoria Road North (eastbound)

Location	Duration	Impacts	Description of public transport management
Victoria Road North (eastbound)	Stage 2*	The existing bus stop in Victoria Road eastbound carriageway, east of Terry Street would be closed for sewer relocation works.	Passengers would be re-directed to a temporary existing bus stop located in Victoria Road east of Crystal Street. Walking distance to the relocated bus stop is 180m.

Table note: * Refer to Figure 10 for staging program.



Figure 27 Bus stop relocation - Victoria Road North (eastbound)

Table 22 Changes to public transport services - Victoria Road North(westbound)

Location	Duration	Impacts	Description of public transport management
Victoria Road North (westbound)	Stage 1*	Existing bus stop in Victoria Road westbound carriageway, west of Toelle Street would be closed	Passengers would be re-directed to a temporary bus stop west of Byrnes Street (at commencement of Bus only lane). Walking distance to the relocated bus stop is 160m.
	Stage 2*	Existing bus stop in Victoria Road westbound carriageway, west of Toelle Street would be closed.	Passengers would be re-directed to a permanent bus stop located west of Springside Street. Walking distance to the relocated bus stop (from the original bus stop location) is 160m.

Table note: * Refer to Figure 8 for staging program.



Figure 28 Bus stop relocation - Victoria Road North (westbound)

5.8.1. Light Rail

In accordance with CoA E45, access to light rail stops will be maintained at all times. Access to Rozelle Bay light rail stop will be maintained in Bayview Street, while the access through Buruwan Park will be closed due to the construction works in The Crescent (refer to Figure 15).

Alternative walking route(s) to the Rozelle Bay light rail stop will be provided at all times during construction via The Crescent, Johnston Street and Bayview Crescent. Based on the detour route shown in the EIS, the additional walking distance will be 370m which involves steps between Johnston Street and Bayview Crescent. An accessible route will be available via Kentville Street and Pritchard Street.

There are no changes to the access points to the light rail stop at Catherine Street.

5.9. Parking management

A Construction Parking and Access Strategy has been prepared to identify and mitigate impacts resulting from on and off-street parking changes during construction of the CSSI.

5.10. Special events

JHCPB will implement traffic management controls to limit the impact on the traffic lanes and thoroughfare of public traffic where possible. The primary impact on the public will be the increase in traffic concentration during tunnel spoil movements, traffic switches, or shift changes at primary parking sites across the project. Special events and peak holiday periods may impact ROL times.

Special consideration and traffic planning would be undertaken for each of the construction sites to address road user needs during scheduled special events. Special events that occur in the vicinity of the worksite would be identified and incorporated into the construction program, with detailed responses and contingencies for each site.

Consultation would be undertaken with RMS, local council, public transport providers and event organisers to allow specific traffic measures to be devised and implemented. JHCPB would identify scheduled events that occur around the worksites and the impact that these events may have on the works.

Broadly, any major interruption to traffic flows in City West Link and Victoria Road as feeder roads would have an impact on the traffic efficiency of the wider road network and would need to be considered.

5.10.1. Local Festivals

Local festivals where increased traffic volumes are expected, where works are planned will be moved to the next available shift for non-critical activities. The TMC will provide exclusion periods for where traffic controls are not permitted, and on which roads. These exclusions will be adhered to.

5.10.2. Seasonal variations in traffic volumes

Seasonal variations in traffic volumes are not expected to have significant impact on the planned activities. ROL times will be adhered to and are not expected to fluctuate throughout the project.

5.11. Incident management and response

The types of emergencies or unplanned incidents that may occur include, but are not limited to motor vehicle crashes, environmental spills, terrorist attacks, bomb threats, construction type incidents, structural catastrophic failures, inclement weather conditions, flooding and anti-social behaviour.

JHCPB will adopt the operating procedures for managing emergencies and unplanned incidents that are addressed in the Project WHS Management Plan.

The Project team would immediately notify RMS' Representative of the occurrence of the incident and record the knowledge of the facts. The Traffic Manager, or delegate, is then required to forward a report with the information to RMS' Representative within two days of the occurrence of the incident.

In addition, the project team would use an appropriate standard plan from the RMS Traffic Control at Work Site Manual, adjusting it as needed to suit the site conditions.

In order to minimise the impact of such events on road user delay, JHCPB will also:

- Monitor road performance and the occurrence of incidents via the Traffic Control Room,

- Clearly identify the relative responsibilities and roles of government agencies and the project team when responding to incidents,
- Establish and maintain communication protocols for both internal and external communications with Public Liaison Manager involvement,
- Provide close support to emergency services, where appropriate,
- Reschedule planned works that will interfere with the incident, or create additional delays to those road users already affected by the incident, and
- As part of the Community Strategy, all enquiries, suggestions, comments, etc. should be directed to the Project 1800 hotline number (1800 660 248). Staff will ensure all information is forwarded to the respective people. The following initiatives will be put in place to supplement this, in order to ensure timely response to incidents occurring within the work zone:
 - › Commercial agreements will be established with several local tow truck companies to provide adequate coverage during the day and after-hours assistance, and
 - › There will be an Incident Response Crew (IRC) during work hours (7am to 5pm), with after-hours support either on site or located nearby.

The incident response crews will be equipped with materials and equipment (including hand tools, shovels, saw dust, sand, brooms and some traffic management equipment) to assist in the first instance, with supplementary tow trucks and additional materials to be dispatched on request to assist in rectification of the incident and to restore safe road conditions.

Furthermore, in case of unplanned incidents such as power failure and public road traffic incidents that occur within Rozelle civil and tunnel site, internal construction trucks would be re-routed to either the temporary western access or the temporary eastern access over a short period of time. The cause of disruption can then be resolved, and the intersection can be returned to normal operation conditions. We would communicate the instructions to truck drivers through traffic marshals.

5.12. Temporary Traffic Control Room

JHCPB would establish and operate a Temporary Traffic Control Room (TTCR).

The TTCR would operate 24 hours a day, seven days a week for the duration of construction phase. The TTCR would undertake:

- Queuing management at the temporary Western Access, temporary Eastern Access and other site access/egress locations to ensure the accesses are free of obstructions to prevent any queues spilling back onto the external road network,
- Site traffic management for construction traffic queueing, marshalling and circulating within the Rozelle civil and tunnel site (using CCTV feeds),
- Monitoring general traffic conditions in relation to construction (using CCTV feeds),
- Incident detection (using CCTV feeds, construction personnel reports and/or the TMC),
- Incident logging and management as required,
- ROL supervision and management (includes reporting active ROLs to TMC), and
- Incident Response Team supervision and direction

The TTCR would be staffed by a least one experienced control room operator at all times. This operator would have radio, telephone and CCTV monitors connected to TMC CCTVs capable of monitoring the core road network.

The CCTV system would provide visual coverage of the views at the following site access and egress locations with a distance at least 200m in the field of view. The CCTV would be set up in City West Link at the temporary Western Access and temporary Eastern Access. We would discuss with TMC the feasibility of a direct feed to its control room.

In addition, CCTV would be installed on City West Link, The Crescent East, The Crescent South and Victoria Road.

5.13. Traffic management documents

5.13.1. Chain of Responsibility Management Plan

The Chain of Responsibility (CoR) is a concept used in the Heavy Vehicle National Law (NSW) No. 42a (HVNL) to place legal obligations on any party who has control in the transport supply chain or across transport industries.

The principle behind the CoR concept is that any party which has control in the transport chain can be held responsible and may be made legally liable. It was developed out of recognition that unlawful behaviour by heavy vehicle drivers is influenced and often controlled by the actions or inactions of other off-road parties. It is often the case that the driver's conduct is a symptom of wider compliance failures by the operator, employer, prime contractor or others in the supply chain such as schedulers, loaders and loading managers, packers, consignors and consignees.

The Project will require thousands of heavy vehicle movements each year. JHCPB takes its obligations in the CoR seriously, acknowledging its role in the chain. In response JHCPB has developed a CoR Management Plan. The Plan was developed in recognition of the 2018 reforms to Chain of Responsibility law and describes how JHCPB will manage CoR during the delivery of the Project. JHCPB, its subcontractors and suppliers will, as far as reasonably practicable, comply with the Plan. Key features of, and responsibilities in complying with, the Plan are presented in Table 23.

Table 23 Chain of responsibility reasonable steps

Supply Chain Participants	Role	What are my duties under NHVL and Chain of Responsibility (CoR)?	What are some 'reasonable steps' to meet duties?	When could this apply to the Project?
Employer	A person who employs someone else to drive a regulated heavy vehicle	<ul style="list-style-type: none"> Take all reasonable steps to ensure their business practices do not cause a driver of a heavy vehicle to: <ul style="list-style-type: none"> Drive while fatigued or in breach of a work/rest requirements. Drive in breach of a speed requirement. Operate a vehicle when not in a roadworthy condition. Drive a vehicle that exceeds mass or dimension limits. Transport over mass or dimension loads without required permit. 	<ul style="list-style-type: none"> Ensure systems/procedures in place for scheduling HV operations and for managing driver fatigue (i.e. roster, training, diaries, IVMS, Accreditation) while 'at work' and if driving home. Ensure required safety equipment is fitted, operational and maintained. Ensure HVs fitted with properly functioning speed limiters. Monitor work diaries and driving related offences. Check that delivery schedules are realistic. Check all required permits have been obtained commencing transport. Also refer to 'Operator' reasonable steps below. 	<ul style="list-style-type: none"> JHCPB could be 'employer' where the HV Driver/Operator is directly employed by project.
Prime Contractor	Engages the driver under a contract for services, e.g. logistics business that engages a subcontractor to transport goods.			<ul style="list-style-type: none"> Spoil removal contractor. Segment transfer. Deliver cement for grouting. Provide premixed concrete. Providing consumables to batch plants.
Owner / Operator / Manager	Operates and/or manages the business dispatching the goods by vehicle	<p>Be responsible for ensuring:</p> <ul style="list-style-type: none"> Rosters do not require truck drivers to exceed the permitted number of driving hours. Accurate records are kept of drivers' activities - including driving, work / rest times & work diaries for at least three years. Vehicle speed limiters are compliant. Loads do not exceed dimension or mass limits and are properly restrained while on the public road networks. Drivers moving freight or materials have accurate transport documentation 	<ul style="list-style-type: none"> Systems and procedures implemented to ensure: <ul style="list-style-type: none"> Vehicles/equipment is kept in good condition and all loads are properly restrained (i.e. Maintenance Management Accreditation). Roadworthiness checks are completed before each use and inspections are conducted at prescribed intervals. HV with defects or faults are withdrawn from service until repaired and re-certified where necessary. Implement policies, procedures and systems to ensure that the mass of each vehicle is 	<ul style="list-style-type: none"> Dispatching of goods or plant from one Project location to another e.g. concrete segments. Dispatching solid or liquid waste, contaminated or hazardous materials and demolition products.

Supply Chain Participants	Role	What are my duties under NHVL and Chain of Responsibility (CoR)?	What are some 'reasonable steps' to meet duties?	When could this apply to the Project?
		<p>including a valid Container Weight Declaration.</p> <p>Flexible and effective work arrangements are developed to accommodate changes in circumstances (such as delays) that mitigate the effects of driver fatigue.</p>	<p>assessed and recorded for each trip (i.e. Mass Management Accreditation).</p> <ul style="list-style-type: none"> ▪ Accreditation). ▪ Implement accredited Fatigue Management system (Basic or Advanced according to operational requirements). 	
Scheduler	Schedules the transport of passengers or goods by road and the work times and rest times of the vehicle's driver	<p>Ensure that:</p> <ul style="list-style-type: none"> ▪ Vehicles do not exceed maximum mass limits or individual axle limits on the public road network. ▪ Drivers have accurate tare weight documents. ▪ Ensure schedule doesn't require a truck driver to: <ul style="list-style-type: none"> ▪ Exceed the speed limit. ▪ Exceed the permitted number of driving hours. ▪ Fail to have minimum rest periods. ▪ Drive while fatigued. 	<ul style="list-style-type: none"> ▪ Routinely check drivers' diaries (including work and rest times) to ensure they are complying with all regulations and instructions. ▪ Foster commercial arrangements with other responsible persons which include operating conditions that comply with the law. ▪ Provide employees with easy and unrestricted access to all necessary information, instruction, training and supervision to allow them to comply with relevant laws. ▪ Develop a loading / packaging plan that provides for the safe of loading and packing goods. ▪ Develop appropriate work/delivery schedule (i.e. allows for sufficient rest and sleep and factors in non-driving activity), plus ensure scheduling system can be audited. ▪ Vehicles are not loaded in a way which exceeds mass or dimension limits. ▪ Audits of HV management practices are conducted to verify compliance with the law and operating systems and practices. ▪ Records and documents relating to heavy vehicle operations are kept for not less than three years. 	<ul style="list-style-type: none"> ▪ JHCPB engages a bus company for site tours or movement of staff. ▪ JHCPB work roster impacts HV operators work/rest breaks.
Consignor / Dispatcher	Dispatches goods for delivery	<p>Delivery request doesn't require a truck driver to:</p> <ul style="list-style-type: none"> ▪ Transport goods that are not secured or exceed vehicle dimension or mass limits. ▪ Exceed the permitted number of driving hours. 	<ul style="list-style-type: none"> ▪ Assess HV activities occurring on the Project (i.e. these may be covered under supply or works contracts). ▪ Request information from transport operators and/or drivers about the systems and 	<ul style="list-style-type: none"> ▪ Personnel transporting spoil or rubbish from site.

Supply Chain Participants	Role	What are my duties under NHVL and Chain of Responsibility (CoR)?	What are some 'reasonable steps' to meet duties?	When could this apply to the Project?
		<ul style="list-style-type: none"> ▪ Fail to have required minimum rest breaks. ▪ Exceed the speed limits. ▪ Carry freight containers without a valid Container Weight Declaration (CWD). <p>Drive while impaired by fatigue.</p>	<p>accreditations they have in place to prevent breaches when transporting your goods.</p> <ul style="list-style-type: none"> ▪ Only select appropriate operators / drivers. ▪ Ensure there is no award/contractual arrangements or instructions that encourage or reward non-compliance. ▪ Adopt systems that minimise loading/unloading times and communicate loading information to carriers. ▪ Systems/processes in place to accurately weigh and measure all goods to be transported by road. ▪ Set realistic delivery timelines which make allowances for unexpected delays such as traffic or road works. ▪ Implement compliance conditions in relevant commercial arrangements. ▪ Provide all necessary work information, instruction, training and supervision to drivers to enable them to carry out their work safely. 	<ul style="list-style-type: none"> ▪ Floating plant to and from site. ▪ Driving heavy plant between sites. ▪ Precast Yard transporting precast segments to site. ▪ JHCPB transporting goods/plant between areas that use public roads.
Consignee / Receiver	Orders and/or Accepts goods being delivered	<ul style="list-style-type: none"> ▪ Assume the same responsibilities as the Consignor / Dispatcher (see above) ▪ Must not knowingly encourage or reward a breach of the mass, dimension, load restraint, speeding or driving hour's laws. 		<ul style="list-style-type: none"> ▪ Receiving goods or plant from haulers or suppliers. ▪ Plant Department receiving new item of plant from supplier or delivered by

Supply Chain Participants	Role	What are my duties under NHVL and Chain of Responsibility (CoR)?	What are some 'reasonable steps' to meet duties?	When could this apply to the Project?
				<ul style="list-style-type: none"> float subcontractor. <ul style="list-style-type: none"> Piling contractor accepting piling rig floated to site.
Loading Manager Loader Unloader	Person responsible for the loading or unloading of goods (i.e. in/on or off the vehicle) or manages the premise.	<p>Ensure the vehicle's load or loading:</p> <ul style="list-style-type: none"> Doesn't exceed vehicle dimension or mass limits. Cannot become unstable, unsafe, move or fall off the vehicle. <p>Contributes to the driver fatigue or in contravention of road transport laws.</p>	<ul style="list-style-type: none"> Monitor load details (i.e. mass, dimensions, dangerous goods). Use a pre-printed form which requires the person in control of packing or loading the goods to verify the accuracy of any records. For containers - Provide Container Weight Declaration (CWD). If the vehicle's weight cannot be accurately assessed at the time of loading, under-load the first trip and verify the weight at some stage of the journey. Subsequent loads can be adjusted accordingly. 	<ul style="list-style-type: none"> Unloading of precast elements on site. Filling truck/dog trailer for transportation of spoil or rubbish from site. Loading items on HV to be transported between
Packer	Packs and loads the goods to be dispatched and includes persons supervising or managing packing goods.	<p>Will not cause the driver to exceed speed limits.</p> <p>Ensure that when goods are packed:</p> <ul style="list-style-type: none"> They do not become unstable or move in transit. Reliable mass and dimension information is provided including Container Weight Declarations. Load documentation is accurate, not false or misleading. Any goods packed in freight containers don't exceed the container's gross weight or safety approval rating. 	<ul style="list-style-type: none"> Fit scales to loading equipment and keeping a 'running' total of the weight of the load for each trip or set up a fixed or transportable weighbridge. Use a loading diagram for different types of loads to ensure axle weight limits are not exceeded. Notify drivers if loading/unloading times will be 30 minutes or more either late or early so they can manage their work/rest times. Provide rest facilities to allow drivers to take rest while waiting if the loading /unloading schedule has long queues. 	<ul style="list-style-type: none"> Project areas using public roads. Project personnel packing items into a container or onto a pallet for transportation.

Supply Chain Participants	Role	What are my duties under NHVL and Chain of Responsibility (CoR)?	What are some 'reasonable steps' to meet duties?	When could this apply to the Project?
<p>Heavy Vehicle Driver</p>	<p>Transports the load to its destination or otherwise operates the Heavy Vehicle (HV)</p>	<ul style="list-style-type: none"> ▪ Maintain current obligations to ensure: ▪ The vehicle does not exceed dimension or mass limits. ▪ The load is appropriately restrained. ▪ All required equipment is properly fitted to the vehicle. ▪ Vehicles are roadworthy and well maintained. ▪ They remain fit-for-work, take required minimum rest breaks and observe speed limits. ▪ They do not drive a heavy vehicle while impaired by fatigue. ▪ They respond to ▪ changes in circumstances (such as delays) and report these to your base (if possible) to implement short-term fatigue management measures. ▪ Safe and responsible driving behaviour is demonstrated always. ▪ Keep and carry full and accurate records as required by law including work and rest hours. 	<ul style="list-style-type: none"> ▪ Conduct roadworthiness checks, and complete pre-use checklists, before each use, report any defects or faults to the Owner, Operator or Manager and ensure prescribed inspections are conducted at the required intervals. ▪ Conduct does not compromise road safety or involve breaking the law. ▪ Know your vehicle's mass (e.g. keep weighbridge docket, use on-board scales to check weights, and keep any loading documentation that shows the weight of your load). ▪ Know how much weight is allowed on the vehicle when fully loaded. ▪ Ensure that your vehicle does not exceed legal dimensions. ▪ Check load is properly restrained ▪ (Even if you are not the person who loaded the vehicle). ▪ Check the condition of restraining equipment (chains, ropes, straps etc) for wear. ▪ Provide the owner or operator of the HV with full and correct records required by law and company procedures in a legible and complete condition. 	<ul style="list-style-type: none"> ▪ When the HV Driver/Operator is directly employed on the Project. ▪ When the HV Driver/Operator is contracted to perform Project.

5.13.2. Traffic Management Plans and Traffic Control Plans

Site specific Traffic Management Plans (TMP) conforming to AS 1742.3 and the RMS Traffic Control at Worksites manual will be developed for the works. These plans will contain additional written details describing the nature of the works.

The TMP will be prepared by a qualified member of the JHCPB Traffic Team and be signed off by the Traffic Manager before forwarding to the Traffic Co-ordination Group (TCG) for consideration and approval. Where the work impacts on council areas, the relevant council will be consulted prior to implementation. Key stakeholders will also be provided a copy of the approved TMP for their information and overview.

A Traffic Control Plan (TCP) is a diagram showing signs and devices arranged to warn traffic and to guide it around, past or if necessary, through a work site or temporary hazard. VMP, although still a diagram, is used to provide clear guidance to workers regarding construction access and egress requirements and circulation within the site including dedicated vehicle turning areas and access and egress points for work sites.

All TCPs will be developed in accordance with Australian Standard 1742.3 and the RMS' "Guide to Traffic Control at Worksites" by a suitably qualified person. A TCP can only be prepared by a person who has undertaken and passed the TCWS training course and holds a current certification (Orange card). Relevant reference documents are:

- Australian Standard AS 1742.3: 2009 – Manual of uniform traffic control devices Part 3 Traffic control for works on roads
- Roads and Maritime Services NSW Traffic Control at Work Sites (TCAWS), Version 5, 2018
- AUSTRROADS Guide to Traffic Management Part 3 – Traffic Studies and Analysis, 2019.

TMPs and TCPs will be developed to provide information regarding the TCP number, location, lanes affected and the traffic control devices. The contents of the TMP, TCP and ROL include the identification of:

- Overview of the construction activities and traffic management requirements
- A description of how traffic management will be established
- A description of traffic management during construction
- A description of traffic management for specific construction activities
- Traffic management measures/devices that will be implemented
- An analysis of resultant traffic conditions and impacts analysis
- Details of stakeholder consultations.

TMPs will be discussed reviewed and finalised in consultation with TMC and RMS at the regular Traffic Co-ordination Group (TCG) meetings. TMC forms part of the infrastructure and services division of TfNSW, and includes, where relevant, the Sydney Coordination Office (SCO) of TfNSW. Therefore, SCO will also be involved in the consultation process.

Key topics will be highlighted in the meetings, such as long-term work sites, construction compounds, intersection works and/ or changes to the road network, construction traffic impacts on the road network and TCS modification.

TCG meetings will be held during the planning phase to outline the construction works, and the proposed traffic management measures, and the approach to be undertaken to ensure all planning documents are being progressed and reviewed by authorities, within an agreed timely manner.

The TCG meetings also provide a platform for all representatives to provide comments to be addressed in the TMPs. Stakeholder feedback received in the TCG will be considered in the final TMP.

The TMPs/TCPs will be submitted to SCO, TMC and RMS for final review prior to the commencement of physical works for each stage for review and comments.

Changes to the TMPs/TCPs will be discussed with RMS and TMC representatives in TCG meetings. The TCG meeting is where decisions will be made with regard to changes to the TMPs/TCPs and traffic management schemes.

It is noted that TMC comments will be considered at the TCG meetings. JHCPB will consult with Inner West Council in relation to works on local roads through the TTLG (refer Section 6.2.3).

5.13.3. Vehicle Movement Plans

Vehicle Movement Plans (VMP) are drawings and diagrams that show preferred travel paths for vehicles associated with a construction site entering or leaving the traffic stream. They consider:

- Entering and exiting work sites to and from adjacent travel lanes,
- Reversing manoeuvres within the work area and in the adjacent travel lanes,
- Travelling through the work area, past construction personnel and in the vicinity of unprotected hazards,
- Slew paths of excavators and cranes may impede traffic paths,
- Turning paths of single unit trucks with or without dog trailers, and
- Hauling at night, where specific conditions, e.g. lighting, may need to be addressed.

JHCPB will apply controls and measures to mitigate the risk of these hazardous movements including, but not limited to restrict the practice of hazardous movements (e.g. certain turning bans), the provision of permanent major traffic controls and devices, installation of temporary traffic controls, the installation of deceleration, acceleration and turning lanes outside of the through lanes, educating construction drivers, installation of warning devices on vehicles and the application of VMPs.

5.13.4. Pedestrian Movement Plans

The Pedestrian Movement Plans will be developed for each stage of the works that impact on the pedestrian travel paths. These Plans will be included as part of the relevant TMP.

The Pedestrian Movement Plan will show the allocated paths for both workers and the public, including signage and devices, where relevant.

5.13.5. Traffic Signal Control Plans

These plans will be submitted separately to the TMP. This is to allow the RMS personnel to review and comment on the plan outside of the TMP process. It is acknowledged that there are significant lead times required for TSC approval and commissioning.

5.13.6. Road Occupancy Licences

For all works on road and path networks, JHCPB will comply with the 'RMS Road Occupancy License Guidelines' for the preparation and submission of ROL applications to obtain the relevant licences and/or permits. These licences and/or permits include ROLs from the TMC. These licenses/ permits will be obtained in advance of the works, and TCP will only be implemented when the licenses/ permits allow, typically out of normal construction hours.

ROL through the TMC will be applied for 10 business days from the requirement. Electronic lodgement of the ROL will be undertaken using RMS' Plink system. Council permits will be lodged in accordance with the various Council timelines. A register of permits/ licenses will be maintained through the Works period.

5.14. Decommissioning and Rehabilitation

As construction activities near completion, ancillary facilities will be decommissioned.

Decommissioning activities will include the removal of the following:

- Temporary buildings, including site offices and amenities,
- Temporary fencing,
- Temporary access points to the site,

- Construction materials which are no longer required,
- Stockpiles of excess quarry product and soil which do not form part of the operational project, and
- Wastes.

During and following these activities the construction site ancillary facilities will be progressively stabilised to minimise erosion. The built form and landscaping for the operational footprint will be outlined in the project's Urban Design and Landscape Plan which will include measures to stabilise exposed areas.

Temporary sites, not required for operation of the project, will be stabilised and rehabilitated in accordance with the Urban Design and Landscape Plan and the project's Flora and Fauna Management Plan (sub-plan to the Project CEMP), which will nominate those flora species and sources to be used in rehabilitated areas. Revegetation and landscaping across the project would be undertaken progressively at the completion of construction activities.

During the decommissioning and rehabilitation activities heavy vehicles will be required to access the site, including to remove temporary buildings, construction materials, quarry products and soil, and to import soil, equipment, plants and other materials required for stabilisation and rehabilitation of the site. In accordance with CoA E49 and E51, spoil haulage movements associated with construction of the Project are not permitted to use local roads, unless otherwise approved by the Secretary as detailed in Section 4.6. A local road is defined for the project as any road or street which is unclassified and is not included in the NSW RMS Schedule of Classified Roads and Unclassified Regional Roads (January 2014).

The project will endeavour to minimise the use of local roads during decommissioning and rehabilitation of ancillary facilities; however the use of local roads will be required where access is not possible via regional and state roads. In these instances, heavy vehicle volumes will be low due to the limited scope of the works, with impacts further minimised by:

- Selecting the shortest route on local roads,
- Avoiding routes which pass the sensitive receivers of schools, childcare facilities, health care facilities and places of worship, where possible,
- Utilising the smallest heavy vehicle possible to complete the task, and
- Confirming the heavy vehicle is able to safely navigate the route including make the turns required prior to commencing the activity.
- All drivers employed on the project, whether direct employees or not, have a responsibility to drive safely and comply with State and Australian road regulations. Project specific requirements, including the items above, will be communicated to drivers through toolbox talks.
- During decommissioning it is anticipated that the works will not impact public transport infrastructure or cyclist and pedestrian infrastructure.

6. Compliance management

6.1. Roles and responsibilities

JHCPB's project team's organisational structure and overall roles and responsibilities are outlined in Section 3.3 of the CEMP. Key roles with responsibility for managing traffic and transport relating to construction activities and construction personnel are summarised in Table 24.

Table 24 Traffic management and safety during construction

Role	Traffic management and safety responsibilities
Tunnelling Director Surface Works Director	<ul style="list-style-type: none"> ▪ Supports the delivery of the road safety and traffic management objectives ▪ Supports the principles and requirements of this TTAMP ▪ Provide direction and support to the Project Director to enable effective planning of temporary traffic management arrangements ▪ Review and authorise relevant plans and processes ▪ Ensure construction team members receive the appropriate training.
Superintendents	<ul style="list-style-type: none"> ▪ Allocate field resources as required ▪ Support the delivery of the road safety and traffic management objectives ▪ Assist with the implementation of this TTAMP ▪ Ensure relevant field team members receive the appropriate training.
Project Managers	<ul style="list-style-type: none"> ▪ Deliver the road safety and traffic management objectives outlined in this TTAMP and TMPs ▪ Assist with planning work activities to identify the required traffic management arrangements to facilitate the works ▪ Prepare VMPs for construction deliveries, haul movements, site ingress/egress points and crane work ▪ Assist in the response to unplanned incidents/ hazards, and task incident management teams accordingly, to make the site safe ▪ Actively participates in the implementation of actions to mitigate, future occurrences of unplanned incidents ▪ Organise and directs engineers to undertake fortnightly long- and short-term traffic management inspections.
Traffic Manager	<ul style="list-style-type: none"> ▪ Responsible for the traffic, pedestrian and parking management of the project ▪ Prepare, implement, monitor and review all staging TMPs. ▪ Present TMP drafts to the Public Liaison Manager and Safety Manager for their approval before submitting to RMS. ▪ Review TMP/TCP following incidents ▪ Chair traffic-related meetings (TTLG and TCG) ▪ Obtain all necessary approvals and ROLs for the TCPs as necessary ▪ Regular monitoring and audits of the implemented TMP's/TCP's ▪ Be responsible for the implementation of ROLs and must continuously monitor the implementation and operation of all road occupancies to ensure that they are compliant with the ROLs ▪ Maintain close liaison with construction teams regarding the programming of work activities which impact traffic.
Senior traffic engineer	<ul style="list-style-type: none"> ▪ Manage required traffic control measures and resources during every shift ▪ Undertake daily inspections of short-term traffic control ▪ Install and maintains long term traffic control plan layouts, e.g. signs and barriers ▪ Manage VMPs for construction deliveries, haul movements, site ingress/egress points and crane work on-site.

Role	Traffic management and safety responsibilities
Stakeholder and Community Relations Director	<ul style="list-style-type: none"> ▪ Represent the Project for community and stakeholder issues ▪ Consult stakeholders for traffic, pedestrian and bike planning issues ▪ With the Community Relations Manager, prepare and distribute changed traffic condition information to road users, transport operators, active transport groups and local communities ▪ Work with the Project Manager on the resolution of traffic complaints and stakeholder enquiries.
WHS Manager	<ul style="list-style-type: none"> ▪ Represent the Project for safety and health matters ▪ Develop guidelines, rules and policy for Project safety ▪ Conduct inspections of Traffic Control Subcontractor in respect to safety ▪ Prepare toolboxes, inductions to address Project traffic and/or transport issues ▪ Review and approves SWMS to the minimum requirements of the Working near Live Traffic Knowledge Document ▪ Conduct task observations of worksite set-ups.

6.2. Communication

Project communication protocols are detailed in the project Community Communication Strategy. The workers, key stakeholders and subcontractors associated with the works will be familiarised with specific requirements of the TTAMP at the project induction.

6.2.1. Traffic Coordination Group

JHCPB would establish a Traffic Coordination Group (TCG) for the Project. The TCG members consisting of representatives of relevant approval authorities:

- RMS Representative,
- NSW TMC Representative
- Sydney Coordination Office Representative (where required),
- JHCPB Traffic Manager, and
- Port Authority of NSW (when considering impacts on port land).

The TCG would meet at a frequency agreed between the representatives attending (generally monthly but more frequently as required) to discuss Traffic Management impacts. Staging and control strategies would be discussed as proposed by JHCPB for future TMP implementation. This will include detail beyond the interest of most external stakeholder groups.

6.2.2. Notification to emergency services

JHCPB would ensure emergency service agencies are regularly consulted regarding proposed changed traffic conditions. This consultation would be facilitated through the TTLG, being the main forum for notification of major changes.

Emergency Services workshops may take place to discuss traffic arrangements for emergency services and safety issues during construction.

JHCPB will ensure that all Emergency Service first responders (Police, Fire and Ambulance) are provided un-restricted thoroughfare at all short-term work sites (lane closures) both day and night.

At long-term work sites (barrier enclosed daytime construction), JHCPB will endeavour to offer Emergency Services vehicles an alternative route through the work site to avoid/overtake congestion on the public road. However, at times during some stages of construction this thoroughfare will not be a safe option for 'road going vehicles'.

The Traffic Manager will ensure that the above Emergency Services contacts above are provided updates of all site access and egress locations, including the appropriate UHF channels and entry protocols to facilitate this thoroughfare.

6.2.3. Traffic and Transport Liaison Group

JHCPB would establish a TTLG for the Project. The TTLG would meet at least once every month, or at another frequency that is acceptable to all members of the group, and would include senior representatives of:

- RMS,
- TMC,
- NSW Police Service,
- State Transit Authority,
- Sydney Buses,
- NSW Bus and Coach Association,
- Bus operators,
- NSW Taxi Council,
- Inner West Council, Canada Bay Council and City of Sydney Council,
- The M4 East Motorway and the New M5 Motorway operators, and
- Representatives of any other Authority or road user group affected by the Project.

The JHCPB Traffic Manager would be a member of the TTLG and would act as the authorised representative for the Project in matters related to traffic and transport. The JHCPB Traffic Manager would provide the following information to the TTLG:

- Construction staging (existing or proposed),
- Traffic operations, including changes in regulatory traffic controls,
- Community concerns and comments or feedback,
- Impacts on road-based transport operations,
- Issues related to pedestrians and cyclists or mobility impaired road users, and
- Communication strategies and actions to be taken (in consultation with JHCPB Community Relations Manager).

The JHCPB Traffic Manager would organise and chair all TTLG meetings for the duration of the Project.

6.2.4. Distribution of information to the community

The JHCPB Traffic Manager, Stakeholder and Community Relations Director/Community Relations Manager, TMC and RMS would jointly distribute information pertaining to changes in traffic conditions in accordance with the Communication Strategy. Available methods to distribute traffic related information is identified in Table 25. The notification method(s) would be dependent on the type, location, and expected impact of the future change.

Table 25 Distribution of information pertaining to changes in traffic conditions

Tool	Requirement	Frequency	Responsibility
Project website	Provide full details on the impacts of the JHCPB's works on the road network and traffic systems on the project website.	Updated on a weekly basis	Roads and Maritime to develop, host, approve and public. JHCPB to provide initial information and then update on a weekly basis.
Static Signposting	Provide large temporary driver advance notice static signposting on roads approaching the Construction Site. The minimum size is to be 1800x1200mm with the design to satisfy AS1743 Road signs - specifications.	At least three weeks prior to traffic changes.	JHCPB

Tool	Requirement	Frequency	Responsibility
Directional signposting	Provide large temporary direction signposting to direct motorists to residences and businesses directly affected by the construction activities. The minimum size is to be 1800 x 1200 mm with the design to satisfy AS 1743 Road signs - Specifications.	Ad hoc basis depending on impact caused by the construction stage. Where required, provided at least 10 days prior to traffic changes.	JHCPB
Notification and information signage (public transport)	Provide temporary notices and signposting at bus stops detailing any changes to bus, routes, bus stops, timetables and services frequencies due to the Project Company's Work.	Provided at least 10 days prior to a change to any bus service.	JHCPB
Notification and information signage (active transport)	Provide temporary notices and signposting at pedestrian and cyclist crossings of the Construction Site and routes around the Construction Site detailing any changes to these facilities due to the Project Company's Work.	Provided at least 10 days prior to a change to any pedestrian or cycle route.	JHCPB
Variable message signage (VMS) (portable and/or permanent)	Electronic variable message sign to provide advanced notice to road users of major traffic changes	At least 10 days prior to traffic change	TMC are responsible for permanent VMS. Where use of permanent VMS is not practical, portable VMS under JHCPB's responsibility will be used.
Radio advertising	JHCPB would negotiate with each radio station and implement a protocol for publicising every traffic change through their traffic reporters, including paid advertisements if necessary	4x10 second protocol for publicising every traffic change through their traffic reporters following negotiations with four leading radio stations	The TMC undertakes major event transport advertising – noted any Project advertising must work in appreciation of wider activities. Otherwise JHCPB would be responsible
Community newsletters	Provide details on the impacts of the Project on the road network and traffic systems in the newsletters issued as part of the community involvement and consultation process	Every two months	JHCPB to provide copy and illustrations RMS to design, print and distribute
Letterbox notifications	Provide leaflets to letterboxes of local properties, residences and businesses outlining the Project, its current and next construction stage and changes and impacts on traffic conditions, including on-street parking conditions, the number of traffic lanes and turn movements, changes to pedestrian and cyclist crossings and access routes and changes to bus routes, services frequencies and stops.	Leaflets prepared and distributed at least two weeks prior to the start of every construction activity that involves a change of three or more days' duration to the road network and systems. Distributed to all properties, residences and businesses directly affected by, and within 500 m of, the changes to the road network and traffic systems.	JHCPB

Tool	Requirement	Frequency	Responsibility
Project display centres	Provide full details on the impacts of the Project Company's Work on the road network and traffic systems in all the Project display centres.	Display at least two weeks prior to the start of every construction activity that involves a change of three or more days' duration to the road network and systems.	JHCPB
Community information line	Provide e-mail, telephone, facsimile and postal contacts for interaction with the community and to receive comments concerning traffic issues associated with the Project Company's Work.	Available at all times during construction hours with message service after hours	JHCPB
Complaints Register	A register to compile all view, complaints and comments received from the community during the Project. Details to include: <ul style="list-style-type: none"> ▪ Date received ▪ Location ▪ Subject matter ▪ Name and details of member of community ▪ Actions taken and responses given ▪ Additional information related to the subject matter ▪ A summary report to be provided to the Roads and Maritime. 	Maintained continuously and report to be provided monthly	JHCPB
JHCPB contact email address	Allows communication with the project team. Email address to be publicised on all communication materials.	Available at all times during construction	JHCPB

6.3. Inspections

Requirements and responsibilities in relation to inspections are documented in Section 3.9 of the CEMP.

Ongoing inspections and monitoring of the impact of the TMP, TCP and ROL would verify compliance with any conditions imposed by RMS.

All long-term traffic control inspections and most short term would be undertaken in accordance with Australian Standard 1742.3 and RMS TCAWs.

Where traffic control deficiencies are identified through these inspections, the relevant TMPs, TCPs or subordinate documentation would be amended, as required, by the Traffic Manager.

Any signage or devices identified during the checks or audits requiring attention will either be rectified at the time or advised to the Traffic Manager during that shift for follow-up action. The Traffic Manager will advise the Surveillance Officer if the specific item needs to be included on the Traffic Incident and Maintenance Register.

Records will be maintained of:

- Traffic guidance schemes, including dates and times the schemes were erected and removed,
- Any adjustments made to such schemes, and
- Inspections.

All inspections will obey guidelines according to Section 6 of the RMS Traffic Control at Worksites manual and Appendix A of Australian Standard 1742.3. Three inspection types identified as part of this process are:

- Pre-start, during work and pre-closedown inspections of traffic control layout (daily, by Team Leader),
- Inspect the traffic control layout on the day before work begins, and weekly inspections (Traffic Manager), and
- Undertake traffic control safety audit at least once a month (Surveillance Officer).

All documentation will be maintained regarding all TCPs and any modifications to them, along with dates, times and reasons for their inclusion and exclusion.

6.4. Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of traffic management measures, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines.

Audit requirements are detailed in Section 3.9 of the CEMP.

6.4.1. Road Safety Audits

Austrroads defines a road safety audit as a formal examination of a future road or traffic Project or an existing road, in which an independent, qualified auditor(s) reports on the roads crash potential and safety performance. There are various types of audits conducted, from feasibility audits through to pre-opening audits. Audits are conducted to assess the safety of existing roads and temporary long-term traffic arrangements implemented for roadwork. Project RSAs, of long-term traffic management, will be conducted in accordance with the AUSTRROADS Road Safety Audit Guide, RMS Guidelines for Road Safety Audit Practices and RMS Technical Direction TD 2004/RS01 – Accident Reduction Guide Part 2: Road Safety Audits.

As per the CoA E56, road safety audits will be conducted:

“by an appropriately qualified and experienced person during detailed design to assess the safety performance of any new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austrroads Guide to Traffic Engineering Practice. Audit findings and recommendations must be actioned prior to construction of the relevant infrastructure and must be made available to the Secretary on request.”

Audits will be conducted for each detailed road design, TMP/TCP and TCS (where applicable) prior to construction of each construction site, including vehicular access and egress driveway, pedestrian, cyclist and public transport safety, as well as the TCS modification.

The audit will be conducted by a suitably qualified, independent, road safety and traffic engineering auditor. The auditor will have Road Safety Auditor Level 3 Certification, have undergone road safety audit training and received certification under the Institute of Public Works Engineering Australia (IPWEA) Accreditation Scheme.

The independent road safety auditor will be recognised on the NSW Register of Road Safety Auditors.

The following methodology will be applied on this Project when conducting the road safety audits:

- Hold a commencement meeting between auditors and JHCPB, if required,
- Review relevant documents (including design plans, previous audits),
- Auditor to conduct site inspections during the day and night, noting deficiencies and hazards,

- Assess the inspection findings in accordance with relevant practices, guides and current standards,
- Prepare a concise audit report, which includes a table detailing the deficiencies identified,
- Construction Team provides a response to the audit findings in consultation with JHCPB, and
- Where necessary, the Construction Team programs necessary actions to rectify deficiencies.

Where road safety deficiencies are identified through these audits, the relevant TMPs, TCPs and TMSP will be amended to address the deficiencies, where required. Audit reports will be made available to the Secretary upon request.

6.5. Reporting

JHCPB would report to the TMC, TTLG and other stakeholders on all traffic and transport management issues related to the Project. Reporting requirements and responsibilities are documented in the CEMP. Additional reporting specific to traffic issues are outlined below.

6.5.1. Monthly reporting

A monthly report would be submitted to RMS and TMC during construction until the completion of construction that summarises:

- Current and upcoming critical issues, including those identified by RMS, traffic and transport liaison group and other relevant stakeholders, and the proposed measures to address these issue,
- Recent and proposed changes to traffic and parking management and their impacts on the operation of the road network and traffic systems,
- Media or community information released and proposed to be released,
- Recent traffic and pedestrian accidents on and in the vicinity of the Construction Site and traffic management works, including cumulative totals,
- Construction scheduling for the Project Company's work, including the current status of all construction stages and impacts on traffic management and approved ROLs,
- Approved and anticipated ROL applications, together with any associated issues of concern to the Project Company, RMS, the traffic and transport liaison group and other relevant stakeholders, including comparisons of base-case performance indicators with those for the current and proposed traffic conditions and achieving the specified targets,
- Comparisons of current and modelled traffic volumes at intersections with the base-case volumes,
- Comparisons of current and modelled traffic travel times on routes with the base-case times, and
- Community and media comments and complaints and the Project Company's response to these comments and complaints.

6.5.2. TTLG meeting reports

A report would be submitted to each meeting of the TTLG or relevant stakeholder group that would include:

- Minutes from the previous traffic and transport liaison or stakeholder group meeting,
- A summary of existing and proposed ROLs, together with details on the status and critical impacts of the ROLs,
- Community and media comments and complaints and the Project Company's response to these comments and complaints, and

Issues of concern or identified by the traffic and transport liaison group or relevant stakeholder groups.

7. Review and improvement

7.1. Continuous improvement

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of traffic management,
- Determine the cause or causes of non-conformances and deficiencies,
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies,
- Verify the effectiveness of the corrective and preventative actions,
- Document any changes in procedures resulting from process improvement, and
- Make comparisons with objectives and targets.

7.2. TTAMP update and amendment

The processes described in Section 3.13.1 and 3.13.2 of the CEMP may result in the need to update or revise this Plan. This will occur as needed.

Any revisions to the TTAMP will be in accordance with the process outlined in Section 3.13.1 of the CEMP.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure – refer to Section 3.11.2 of the CEMP.

Annexure A Other Conditions of Approval and Revised Environmental Management Measures relevant to this Sub-plan

Table 26 Other Conditions of Approval relevant to the development of this Sub-plan

CoA No.	Condition Requirements	Document Reference
A44	All construction spoil haulage vehicles must be clearly marked as being for WestConnex M4-M5 Link (including CSSI application number) in such a manner to enable immediate identification within at least 50 metres of the vehicles.	Section 5.2
E43	During construction, where bus stops are required to be temporarily closed or relocated, such closure must not occur until relocated bus stops are functioning, have similar capacity and are relocated within a 400 metre walking distance of the existing bus stop. Closures and relocation of bus stops during construction must be undertaken in consultation with Transport for NSW and relevant council(s). Wayfinding signage must be provided directing commuters to adjacent or relocated bus stops. Footpaths must be provided to any relocated bus stops such that accessibility standards are met.	Section 5.8
E44	Prior to the commencement of operation of the CSSI, all bus stops temporarily closed or relocated must be reinstated in a manner that provides equal or improved capacity and accessibility (including footpaths) in consultation with Transport for NSW and relevant council(s).	Section 5.8
E45	Access to Light Rail stops must be maintained at all times.	Section 5.8
E46	Access to all utilities and properties must be maintained during construction, where practicable, unless otherwise agreed with the relevant utility owner, landowner or occupier.	Section 4.5
E47	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier.	Section 4.5
E49	Spoil haulage vehicles associated with the construction of the CSSI are not permitted to use local roads within one (1) kilometre of construction works and construction ancillary facilities, unless otherwise approved by the Secretary.	Section 4.5 Section 5.2
E51	All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required. The traffic and pedestrian impact assessment, incorporated in the Site Establishment Management Plan or Traffic and Transport CEMP as relevant, must: (a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts; (b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and (c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation.	Section 4.5
E52	Construction vehicles (including staff vehicles) associated with the CSSI must be managed to: (a) minimise parking on public roads; (b) minimise idling and queuing on public roads; and (c) ensure spoil haulage vehicles must adhere to the nominated haulage routes identified in the Traffic and Transport CEMP.	Section 5.9 Section 5.2 Section 5.2.6 Construction Parking and Access Strategy (separate to this TTAMP)
E53	The locations of all construction spoil haulage vehicles must be able to be monitored in real time and the records of monitoring be made available electronically to the Secretary and the EPA upon request for a period of no less than one year following construction. Note: Refer to Condition A44 in relation to vehicle identification.	Section 5.2.3

CoA No.	Condition Requirements	Document Reference
E54	<p>A Construction Parking and Access Strategy must be prepared and implemented to identify and mitigate impacts resulting from on- and off-street parking changes during construction of the CSSI. The Strategy must include, but not necessarily be limited to:</p> <ul style="list-style-type: none"> (a) confirmation and timing of the removal of on- and off-street parking associated with construction of the CSSI; (b) parking surveys of all parking spaces to be removed to determine current demand during peak, off-peak, school drop off and pickup, and weekend periods; (c) consultation with affected stakeholders utilising existing on- and off-street parking stock which will be impacted as a result of construction; (d) assessment of the impacts of changes to on- and off-street parking stock taking into consideration outcomes of consultation with affected stakeholders; (e) identification of mitigation measures to manage impacts to stakeholders as a result of on and off-street parking changes including, but not necessarily limited to, staged removal and replacement of parking, provision of alternative parking arrangements, managed staff parking arrangements and working with relevant council(s) to introduce parking restrictions adjacent to work sites and compounds; (f) provision of a shuttle bus service(s) to transport workers to site(s) and details of the shuttle bus service(s), including service timing and frequency; (g) mechanisms for monitoring, over appropriate intervals, to determine the effectiveness of implemented mitigation measures; (h) provision of contingency measures should the results of mitigation monitoring indicate implemented measures are ineffective; and (i) provision of reporting of monitoring results to the Secretary and relevant council(s) at three (3) monthly intervals. <p>The Construction Parking and Access Strategy must be submitted to the Secretary for approval at least one (1) month prior to the commencement of any works that impact parking.</p>	Section 1.3 and CPAS (separate to this TTAMP)
E55	<p>The CSSI (including new or modified local roads, parking, pedestrian and cycle infrastructure) must be designed to meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management.</p>	Section 5
E56	<p>An independent Road Safety Audit(s) is to be undertaken by an appropriately qualified and experienced person during detailed design to assess the safety performance of new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management. Audit findings and recommendations must be actioned prior to construction of the relevant infrastructure and must be made available to the Secretary on request.</p>	Section 6.4.1
E57	<p>Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted prior to the restriction or removal of the relevant pedestrian and cyclist access.</p>	Section 5.7
E58	<p>The Proponent must provide improved connectivity for cyclist and pedestrians between Roberts Street and Springside Street, and incorporate these in the Pedestrian and Cycle Implementation Strategy required by Condition E60. Note: This condition does not specifically require work to be undertaken in the Victoria Road reservation but could include works on the parallel local road network.</p>	Pedestrian and Cycle Implementation Strategy (separate to this TTAMP)
E59	<p>Enhanced cycle facilities at Rozelle Bay and Leichhardt North light rail stops must be investigated and implemented if possible, in consultation with Transport for NSW and incorporated into the Pedestrian and Cycle Implementation Strategy required by Condition E60.</p>	Pedestrian and Cycle Implementation Strategy (separate to this TTAMP)
E60	<p>A detailed Pedestrian and Cycle Implementation Strategy must be included as a component of the Urban Design and Landscape Plan required by Condition E133 and reviewed by the Design Review Panel. The Strategy must be prepared in consultation with relevant council(s) and Bicycle NSW. The Strategy must be consistent with the Active Transport Strategy in Volume 2F, Appendix N of the EIS and must incorporate the requirements of Conditions E58 and E59 and include:</p> <ul style="list-style-type: none"> (a) pedestrian and cycle engineering and safety standards; 	Section 5.7 Pedestrian and Cycle Implementation Strategy (separate to this TTAMP)

CoA No.	Condition Requirements	Document Reference
	(b) a safety audit of existing and proposed pedestrian and cycle facilities to address the above standards; (c) details of selected routes and connections to existing local and regional routes; (d) timing and staging of all works; (e) infrastructure details, including lighting, safety, security, and standards compliance; (f) signage and wayfinding measures; and (g) details of associated landscaping works. All identified works arising from this condition are to be implemented prior to the commencement of project operations, except as permitted by this approval.	
E61	A Road Dilapidation Report must be prepared by a suitably qualified person, for local roads (and associated infrastructure within the road reserve) proposed to be used by heavy vehicles for works associated with the CSSI, before the commencement of use by such vehicles. Copies of the Road Dilapidation Report must be provided to the relevant road authorities within three (3) weeks of completing the surveys and no later than one (1) month before the use of local roads by such vehicles.	Section 5.3
E62	If damage to roads occurs as a result of the construction of CSSI, the Proponent must either: (a) compensate the relevant road authority for the damage so caused. The amount of compensation may be agreed with the relevant road authority, but compensation must be paid even if no agreement is reached; or (b) rectify the damage so as to restore the road to at least the condition it was in pre- construction.	Section 5.3

Table 27 Revised Environmental Mitigation Measures relevant to the development of this Sub-plan

Outcome	Ref#	Commitment	Reference
Delays and disruptions to the road network during construction	TT01	A Construction Traffic and Access Management Plan (TTAMP) will be prepared as part of the CEMP. The TTAMP will include the guidelines, general requirements and principles of traffic management to be implemented during construction. It will be prepared in accordance with Austroads Guide to Road Design (with appropriate Roads and Maritime supplements), the RTA Traffic Control at Work Sites Manual and AS1742.3: Manual of uniform traffic control devices – Part 3: Traffic control for works on roads, and any other relevant standard, guide or manual. The TTAMP will be prepared in consultation with relevant transport stakeholders and local councils. The overarching strategy of the TTAMP will be to:	This document
		Ensure relevant stakeholders are considered during all stages of the project	Section 6.2
		Comprehensively communicate changes in traffic conditions to emergency services, public transport operators, other road user groups and any other affected stakeholders	Section 6.2
		Identify measures to manage the movements of construction- related traffic to minimise traffic and access disruptions in the public road network	Section 5
		Minimise the use of local roads for heavy vehicles	Section 4.5
		Minimise the loss of on-road parking for local residents	Section 5.9 and Construction Parking and Access Strategy (separate to this TTAMP)
		Describe a car parking strategy for construction staff at the various worksites and ancillary facilities.	Section 5.9 and Construction Parking

Outcome	Ref#	Commitment	Reference
			and Access Strategy (separate to this TTAMP)
		Provide safe routes for pedestrians and cyclists during construction	Section 5.7
		Develop construction methodologies so that interaction with existing road users is minimised thereby creating a safer work and road user environment	Section 5.6 and 5.1
		Plan and stage works to minimise the need for road occupancy, where possible	Section 5.1, Construction stage traffic management 5.4
		Develop project staging plans in consultation with relevant traffic and transport stakeholders	Section 6.2 & Section 5.13
		Minimise the number of changes to the road users' travel paths and, where changes are required, develop and implement an effective community communication strategy, coupled with temporary wayfinding signage to warn, inform and guide. This will aim to minimise confusion by providing clear and concise traffic management schemes	Section 5.6
Delays and disruptions to the road network during construction	TT02	Identify potential road user delays during the planning and consultation phases and include strategies within the TTAMP to reduce identified delays.	Section 3.4, 6.2 & Section 5.13
Impacts on road network performance (delays) and safety	TT03	Develop construction staging and temporary works that minimises conflicts with the existing road network and maximises spatial separation between work areas and travel lanes.	Section 3.4 & 5
Parking on local streets around construction sites	TT04	<p>The car parking strategy described in the TTAMP will:</p> <p>Quantify construction workforce parking demand around project work sites and ancillary facilities during site establishment and the construction phase generally</p> <p>Identify public transport options and other management measures (such as carpooling and shuttle-buses) to reduce construction workforce parking demand</p> <p>Identify all locations that will be used for construction workforce parking (including potential use of government owned land and other potential areas near to the construction ancillary facilities)</p> <p>Identify potential offsite areas that could be used for construction workforce parking that would be investigated and secured for use during construction where required and possible</p> <p>Identify parking exclusion zones, in consultation with potentially affected stakeholders, around construction sites and facilities where construction workforce parking would be restricted.</p> <p>The strategy will also be developed in consultation with the M4 East and New M5 contractors to identify opportunities to use existing parking arrangements associated with those projects during their respective construction periods and once those periods are completed.</p>	<p>Section 4.3, 4.4, 5.9 and Construction Parking and Access Strategy (separate to this TTAMP)</p> <p>It is noted that consultation with the M4 East and New M5 contractors is not relevant to the Rozelle Interchange Project, as these projects are adjacent to the Mainline Tunnels Project.</p>

Outcome	Ref#	Commitment	Reference
Impacts on road network performance (delays) and safety	TT05	Isolate work areas from general traffic through the implementation of appropriate traffic and access controls.	Section 5.1, 5.4, 5.6
Impacts on road network performance (delays) and safety	TT06	Develop and implement work methods to minimise delays and road user impacts, for example utilising more efficient plant and equipment, and applying different design solutions.	Section 5.1
Impacts on road network performance (delays) and safety	TT07	Provide temporary closed-circuit television (CCTV) and Variable Message Signs (VMS) in consultation with the Traffic Management Centre (TMC) to link with the existing TMC network to facilitate real time monitoring and management of impacts and traffic safety in the vicinity of the project.	Section 5.11, 5.12
Impacts on road network performance (delays) and safety	TT08	During construction, work with the TMC to improve traffic conditions around work and incidents from CCTV footage and modify sites wherever practicable.	Section 5.11, 5.12
Impacts on road network performance (delays) and safety	TT09	Provide a mechanism for the community to report incidents and delays, for example a project phone number. Advertise details along the construction site's interface with the road network.	Section 5.6, 5.10, 5.11
Impacts on road network performance (delays) and safety	TT10	Schedule construction-related transport movements to avoid peak traffic periods and minimise project-related congestion, where possible.	Section 5.2
Impacts on road network performance (delays) and safety	TT11	Develop and adopt robust community and stakeholder communication protocols regarding altered traffic conditions.	Section 6.2
Impacts on pedestrian and cycle paths	TT12	Minimise impacts on the pedestrian paths and cycle lanes and provide timely alternatives during construction where practical and safe to do so.	Section 5.7
Impacts on public transport	TT13	Identify impacts on bus stops and provide alternative locations and access in consultation with Transport for NSW.	Section 5.8

Outcome	Ref#	Commitment	Reference
Impact on property access	TT14	Manage local road closures and maintain adequate property access. This will be undertaken in consultation with Roads and Maritime, local councils and property owners likely to be impacted.	Section 4.5
Impacts on road network from spoil transport	TT15	Identify spoil haulage routes and designated routes for other project-related heavy vehicles and communicate, along with site access requirements and restrictions, to all relevant drivers. Designated heavy vehicle routes will be identified with consideration of potentially affected stakeholders, such as schools, day care centres, nursing homes and places of worship, around project sites that might be adversely affected by project-related heavy vehicle movements. Routes and associated restrictions of use of the routes will be developed to minimise identified potential impacts. Project-related heavy vehicle routes and any associated restrictions of use will be documented in the TTAMP.	Section 5.2
Impacts on road network from spoil transport	TT16	Develop and implement a truck management strategy (as part of the TTAMP) that: <ul style="list-style-type: none"> ▪ Identifies truck marshalling areas that will be used by project-related heavy vehicles ▪ Describes management measures for project-related heavy vehicles to avoid queuing and site-circling in adjacent streets and other potential traffic and access disruptions ▪ Describes monitoring programs to demonstrate that project-related heavy vehicles are complying with the strategy. 	Section 5.2, 5.2.6
Impacts on receivers from spoil transport during	TT17	Monitor and manage project-related heavy vehicle movements to and from sites with the aim of limiting any associated increases in road traffic noise levels during the night-time period to no more than 2 dBA. Any increases in road traffic noise of more than 2 dBA due to project-related vehicle movements will be managed in accordance with the Construction Noise and Vibration Guideline (Roads and Maritime 2016).	Construction Noise and Vibration Management Plan (Section 8.7)
Impacts on road infrastructure	TT18	Prepare a road dilapidation report, in consultation with relevant councils and road owners, identifying existing conditions of local roads and mechanisms to repair damage to the road network caused by heavy vehicle movements associated with the project.	Section 5.3.1
Active transport strategy implementation	TT20	An Active Transport Network Implementation Strategy will be prepared for the project. The strategy will be consistent with the Active transport strategy in Appendix N of the EIS. The strategy will be prepared in consultation with relevant councils and Bicycle NSW and implemented prior to the commencement of project operations or as otherwise agreed to by the Secretary of NSW Department of Planning and Environment.	Section 4.8
Ongoing construction impacts on the local community throughout the construction phase of the M4-M5 Link	C1	Cumulative impacts strategy will be prepared in accordance with the Cumulative impact assessment methodology in Chapter 26 and Appendix C (Cumulative impact assessment methodology) of the EIS. It will include strategies and measures to minimise cumulative impacts on the community and other stakeholders including: <ul style="list-style-type: none"> ▪ Identification of key stakeholders and projects ▪ Identification of precincts for which separate Cumulative impact plans may be developed and implemented ▪ Identification of a co-ordinating body ▪ Procedures and mechanisms for co-ordinating consultation and sharing of information, such as works programs and schedules, with other projects ▪ Opportunities and measures to work with other projects to minimise the effects of impacts and enhance the benefits of multiple projects occurring concurrently or consecutively ▪ Opportunities to co-ordinate community communications across the various projects to provide consistent messaging. 	Section 4.3

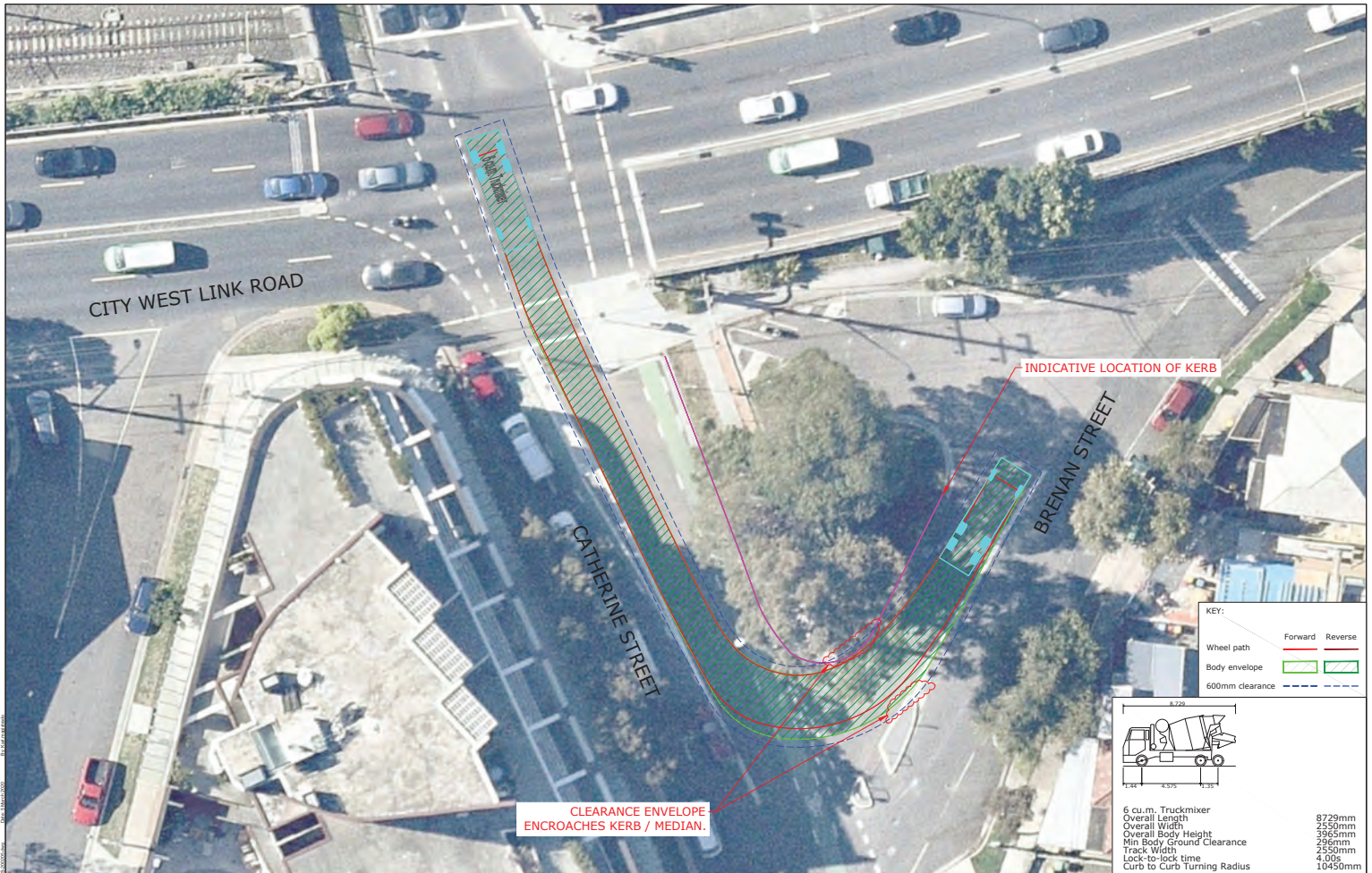
Annexure B Consultation summary – TTAMP revision

Agency	Contact with agency	Response received	Issues raised and responses
Inner West Council (IWC)	Via email from the Project: 4 December 2019, 5 December 2019, 9 December 2019 (to arrange meeting) Attendance at briefing meetings: 8 November 2019, 18 December 2019, 5 February 2020	Attendance at briefing meetings	<ul style="list-style-type: none"> Refer meeting minutes provided to DPIE dated 18/12/2019 and 04/02/2019
City of Sydney	13 February 2020	Attendance at briefing meeting	<ul style="list-style-type: none"> Refer meeting minutes provided to DPIE dated 13/02/2020
Port Authority	4 February 2020	Attendance at briefing meeting	<ul style="list-style-type: none"> Refer meeting minutes provided to DPIE dated 18/12/2019 and 04/02/2019
SCO	Monthly meetings from July 2019 to February 2020	Attendance meetings	<ul style="list-style-type: none"> Refer meeting minutes provided to DPIE




Agency	Contact with agency	Response received	Issues raised and responses
Inner West Council (IWC)	Briefing meeting arranged		
City of Sydney	Changes not occurring within CoS LGA boundary		

Agency	Contact with agency	Response received	Issues raised and responses
Port Authority	Consulted as part of Modification 4 approval for use of Glebe Island		
SCO	Presented TTAMP changes in TCG meeting 08/07/2020	Key issues raised: <ul style="list-style-type: none"> Does Johnston Street or Catherine Street route have DPIE approval or EIS approval ? 	Project response: <ul style="list-style-type: none"> EIS states refinement of heavy vehicle routes will occur as part of TTAMP development. Johnston Street identified for use in EIS. Refinement of the route subject to the TTAMP approval from DPIE and CoA E49 and CoA E51. Both routes subject to TTAMP approval, CoA E49 and CoA E51.

Annexure C Swept Path Analysis



REV.	DESCRIPTION	DRAWN	CHECK	APPD.	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	05/03/20

PROJECT: WESTCONNEX 3B
 TITLE: SWEEP PATH ANALYSIS
 8.729m TRUCKMIXER - CATHERINE STREET TO BRENAN STREET

DWG No.	19021CAD131
FIGURE 1	
DATE STAMP	05 MARCH 2020
PROJECT No.	19021
SCALE	1:400 @ A3
REV.	A



REV.	DESCRIPTION	DRAWN	CHECK	APPD.	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	05/03/20





PROJECT: WESTCONNEX 3B
 TITLE: SWEEP PATH ANALYSIS
 8.79m TIPPER - CATHERINE STREET TO BRENNAN STREET

DWG No.	19021CAD131
FIGURE 2	
DATE STAMP	05 MARCH 2020
PROJECT No.	19021
SCALE	1:400 @ A3
REV.	A

Mercedes Actros Rigid Tipper 8x4 3236K
 Overall Length: 8790mm
 Overall Width: 2450mm
 Overall Body Height: 3233mm
 Min Body Ground Clearance: 280mm
 Track Width: 2490mm
 Lock-to-lock time: 5.00s
 Wall to Wall Turning Radius: 10750mm

VEHICLE ENTERING

VEHICLE EXITING

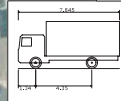
LEGEND

DWORK SITE



KEY:

Wheel path Forward Reverse
 Body envelope
 600mm clearance



Hino GH 1928 Medium
 Overall Length 7845mm
 Overall Width 2490mm
 Overall Body Height 3633mm
 Min Body Ground Clearance 418mm
 Track Width 2490mm
 Lock-to-lock time 5.40s
 Curb to Curb Turning Radius 7500mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KH	CH/EL	DL	11/04/19



PROJECT
WESTCONNEX 3B
 TITLE
**7.845M TRUCK SWEPT PATH ANALYSIS
 HORNSEY STREET - VICTORIA ROAD**

DWG No.	19021CAD038
DATE STAMP	11 APRIL 2019
PROJECT No.	19021
SCALE	1:400 @ A3
REV.	A



8.8 m Single Vehicle



12.5 vehicle





KEY:

- Wheel path: Forward (Red line), Reverse (Green line)
- Body envelope: Green hatched area
- 600mm clearance: Dashed blue line

HRV - Heavy Rigid Vehicle
 Overall Length 12500mm
 Overall Width 2500mm
 Overall Body Height 4300mm
 Min Body Ground Clearance 417mm
 Track Width 2300mm
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 12500mm

REV.	DESCRIPTION	DRAWN	CHECK	APPD.	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19

WestConnex
Partner in Infrastructure

JOHN HOLLAND **CPB**

PROJECT: WESTCONNEX 3B

TITLE: AS2890.2 12.5m HEAVY RIGID VEHICLE SWEPT PATH ANALYSIS
 CLUBB STREET - MANNING STREET - BYRNES STREET

DWG No.	19021CAD039
FIGURE	FIGURE 4
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:1200 @ A3
REV.	A



REV.	DESCRIPTION	DRAWN	CHECK	APPD.	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19





PROJECT: WESTCONNEX 3B
 TITLE: AS2890.2 12.5m HEAVY RIGID VEHICLE SWEEP PATH ANALYSIS TOELLE STREET - MANNING STREET-CLUBB STREET

DWG No.	19021CAD039
FIGURE 1	
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:1200 @ A3
REV.	A



REV.	DESCRIPTION	DRAWN	CHECK	APPD.	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19

PROJECT: WESTCONNEX 3B

TITLE: AS2890.2 12.5m HEAVY RIGID VEHICLE SWEEP PATH ANALYSIS
CALLAN STREET- MANNING STREET-TOELLE STREET

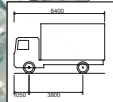
Logos: WestConnex, JOHN HOLLAND, CPB

DWG No.	19021CAD039
FIGURE 13	
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:1200 @ A3
REV.	A



KEY:

Wheel path	Forward	Reverse
Body envelope		
600mm clearance		



SRV - Small Rigid Vehicle
 Overall Length 6400mm
 Overall Width 2330mm
 Overall Body Height 5500mm
 Min Body Ground Clearance 395mm
 Track Width 2330mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 7100mm

REV.	DESCRIPTION	DRAWN	CHECK	APPD.	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19

PROJECT: **WESTCONNEX 3B**

TITLE: **AS2890.2 6.4m SMALL RIGID VEHICLE SWEEP PATH ANALYSIS
 BYRNES STREET - MANNING STREET - CALLAN STREET - MCCLEER STREET - SPRINGSIDE STREET**

Logos: **WestConnex**, **JOHN HOLLAND**, **CPB**

DWG No.	19021CAD039
FIGURE	FIGURE 9
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:1200 @ A3
REV.	A



KEY:

- Wheel path Forward Reverse
- Body envelope ▨ ▨
- 600mm clearance - - - - -

SRV - Small Rigid Vehicle
 Overall Length 6400mm
 Overall Width 2330mm
 Overall Body Height 3850mm
 Min Body Ground Clearance 2330mm
 Track Width 2330mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 7100mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19

WESTCONNEX 3B

AS2890.2 6.4m SMALL RIGID VEHICLE SWEEP PATH ANALYSIS
SPRINGSIDE STREET - MCCLEER STREET - CALLAN STREET - MANNING STREET - TOELLE STREET

WestConnex
Partner in Infrastructure

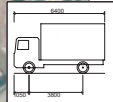
JOHN HOLLAND **CPB**

DWG No.	19021CAD039
FIGURE 12	
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:1200 @ A3
REV.	A



KEY:

Wheel path	Forward	Reverse
Body envelope		
600mm clearance		



SRV - Small Rigid Vehicle

Overall Length	6400mm
Overall Width	2330mm
Overall Body Height	3850mm
Min Body Ground Clearance	2330mm
Track Width	2330mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	7100mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19

PROJECT: **WESTCONNEX 3B**




TITLE: **6.4m SMALL RIGID VEHICLE SWEEP PATH ANALYSIS
MOODIE STREET-MCCLEER STREET - SPRINGSIDE STREET**

Logos: **WestConnex**, **JOHN HOLLAND**, **CPB**

DWG No.	19021CAD039
FIGURE 18	
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:500 @ A3
REV.	A

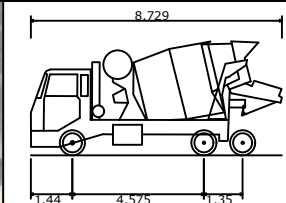
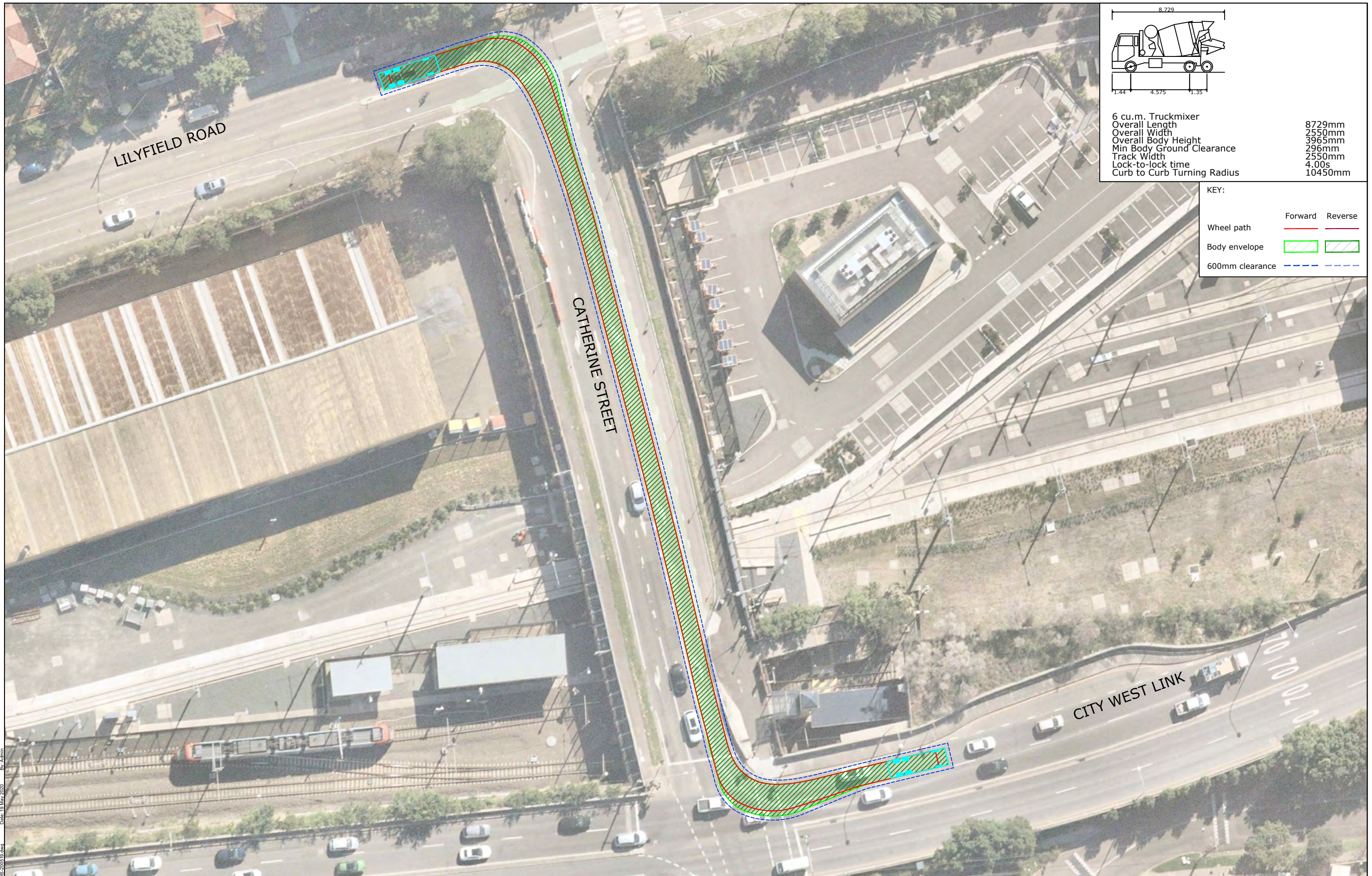


REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	KL/DL	DL	07/05/19

PROJECT: WESTCONNEX 3B
 TITLE: 6.4m SMALL RIGID VEHICLE SWEEP PATH ANALYSIS MOODIE STREET-MCCLEER STREET - SPRINGSIDE STREET

DWG No.	19021CAD039
FIGURE 21	
DATE STAMP	07 MAY 2019
PROJECT No.	19021
SCALE	1:500 @ A3
REV.	A



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

KEY:

	Forward	Reverse
Wheel path		
Body envelope		
600mm clearance		

By: Admin Date: 19 May 2020 Filename: 19021CAD153-SWEPT_PATH-2020-18.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	19/05/20

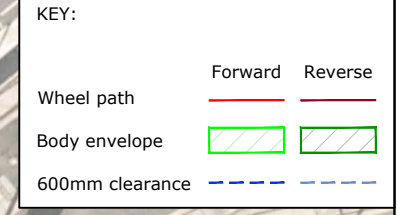
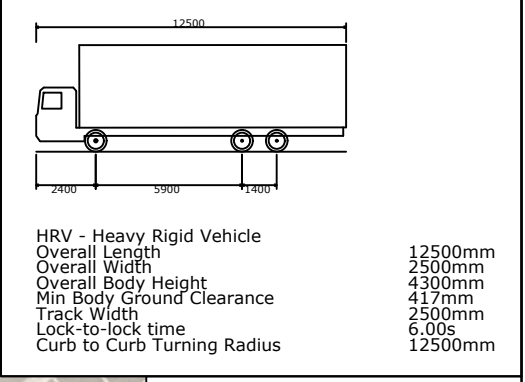
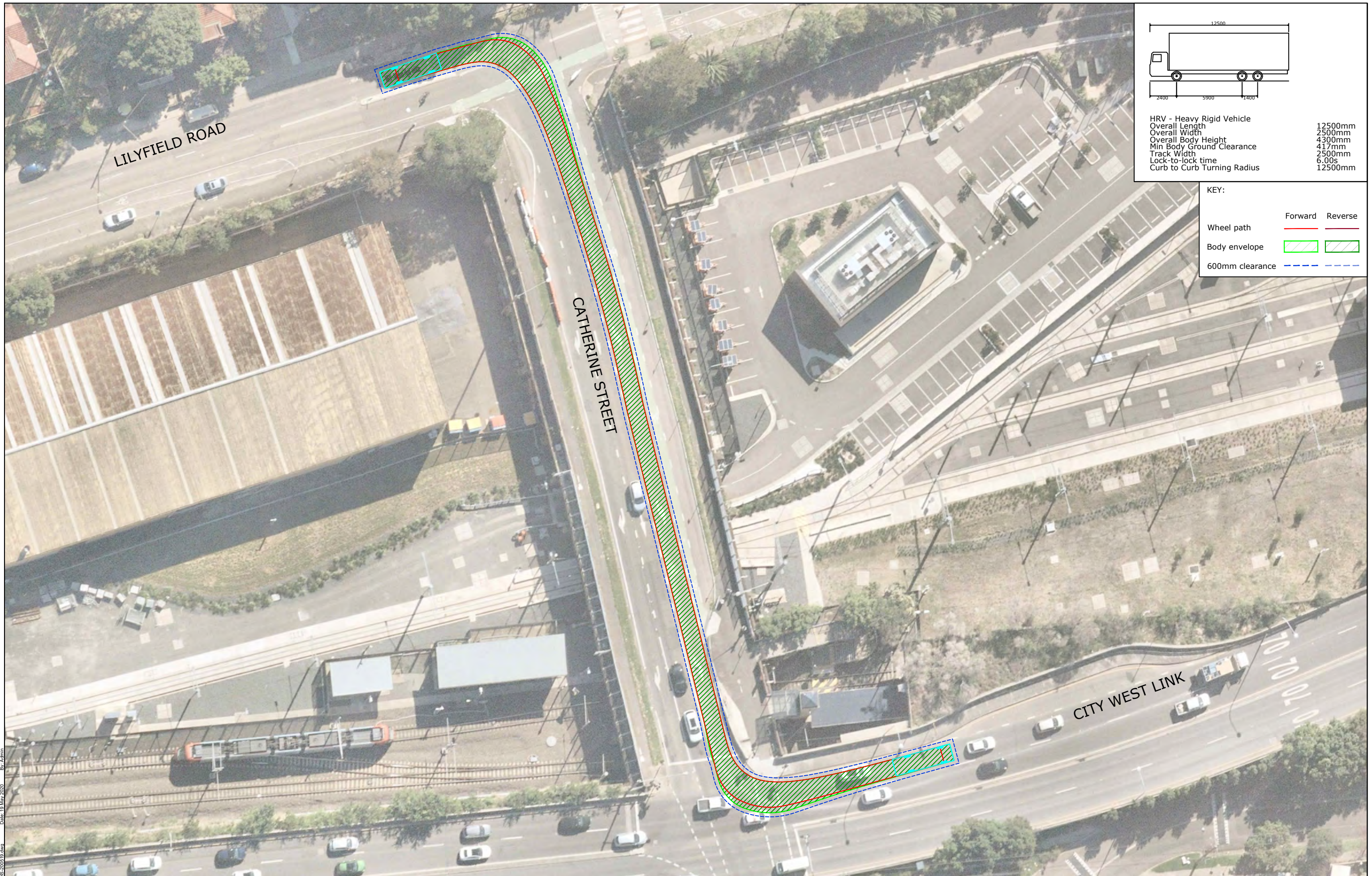
WestConnex
 Rozelle Interchange

JOHN HOLLAND **CPB CONTRACTORS**

PROJECT: WESTCONNEX 3B

TITLE: SWEPT PATH ANALYSIS - LILYFIELD ROAD TO CATHERINE ST TO CITY WEST LINK
 8.729m TRUCK MIXER

DWG No.	19021CAD153		
	FIGURE 1		
DATE STAMP	19 MAY 2020		
PROJECT No.	SCALE	REV.	
19021	1:500 @ A3	A	



By: Admin Date: 19 May 2020 Filename: 19021CAD153-SWEPT PATH-AS-2020-18.dwg

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	19/05/20

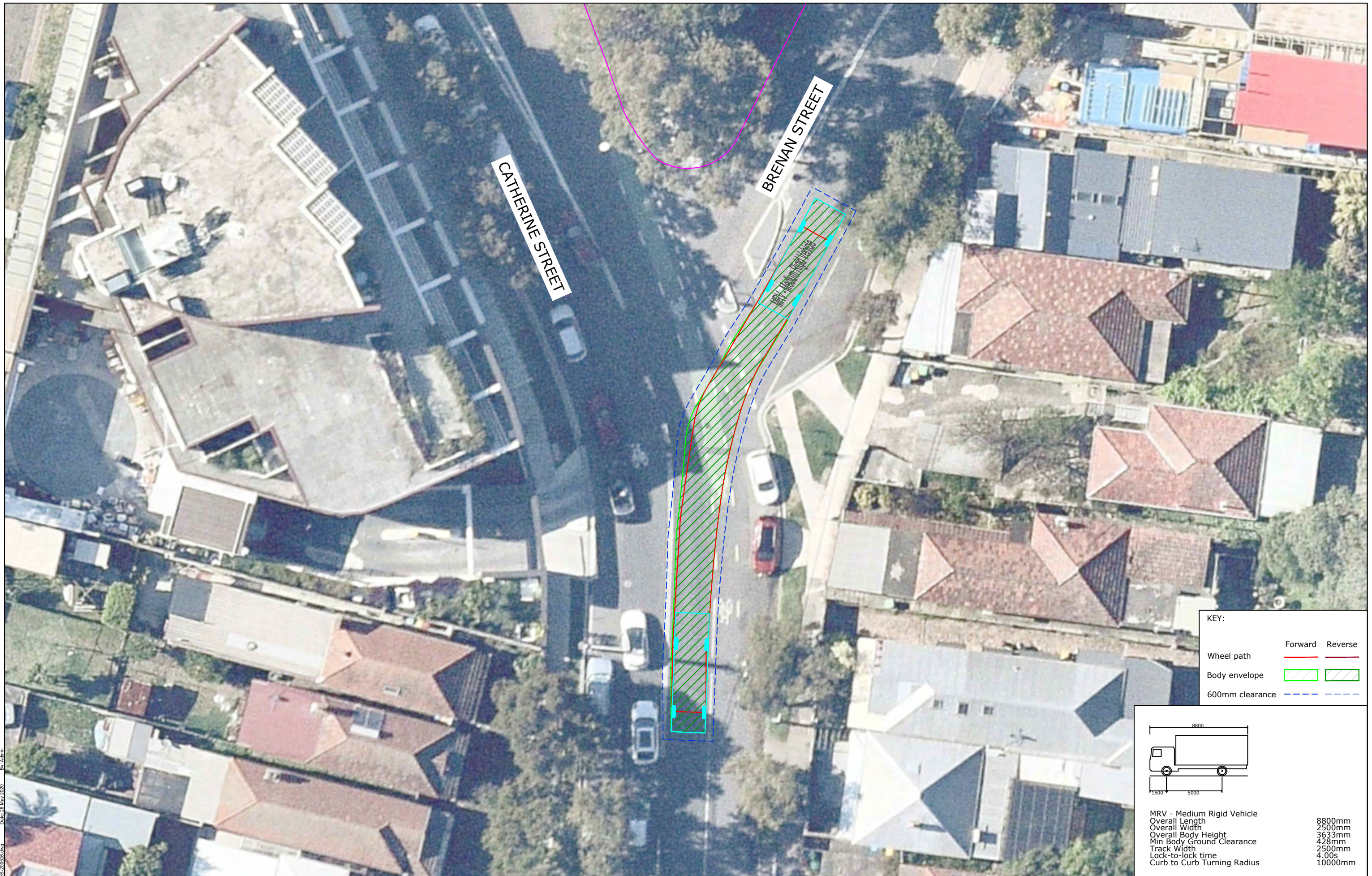
WestConnex
Rozelle Interchange

JOHN HOLLAND **CPB CONTRACTORS**

PROJECT: WESTCONNEX 3B

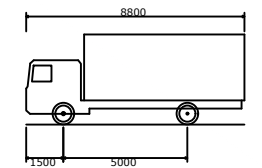
TITLE: SWEPT PATH ANALYSIS - LILYFIELD ROAD TO CATHERINE ST TO CITY WEST LINK
AS2890.2 8.8m MEDIUM RIGID VEHICLE

DWG No.	19021CAD153		
	FIGURE 2		
DATE STAMP	19 MAY 2020		
PROJECT No.	SCALE	REV.	
19021	1:500 @ A3	A	



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
600mm clearance		



MRV - Medium Rigid Vehicle	
Overall Length	8800mm
Overall Width	2500mm
Overall Body Height	3633mm
Min Body Ground Clearance	428mm
Track Width	2500mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10000mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

WestConnex
Rozelle Interchange

JOHN HOLLAND **CPB CONTRACTORS**

PROJECT: WESTCONNEX 3B

TITLE: SWEPT PATH ANALYSIS - BRENAN STREET TO CATHERINE STREET
AS2890.2 8.8m MEDIUM RIGID VEHICLE

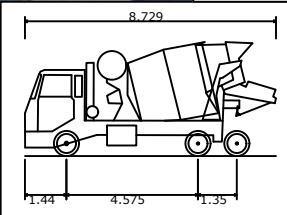
DWG No.	19021CAD156		
	FIGURE 1		
DATE STAMP	26 MAY 2020		
PROJECT No.	SCALE	REV.	
19021	1:250 @ A3	A	

File name: 19021CAD156_SWEPT_PATH_20200526.dwg Date: 26 May 2020 By: Admin



KEY:

Wheel path	Forward	Reverse
Body envelope		
600mm 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

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

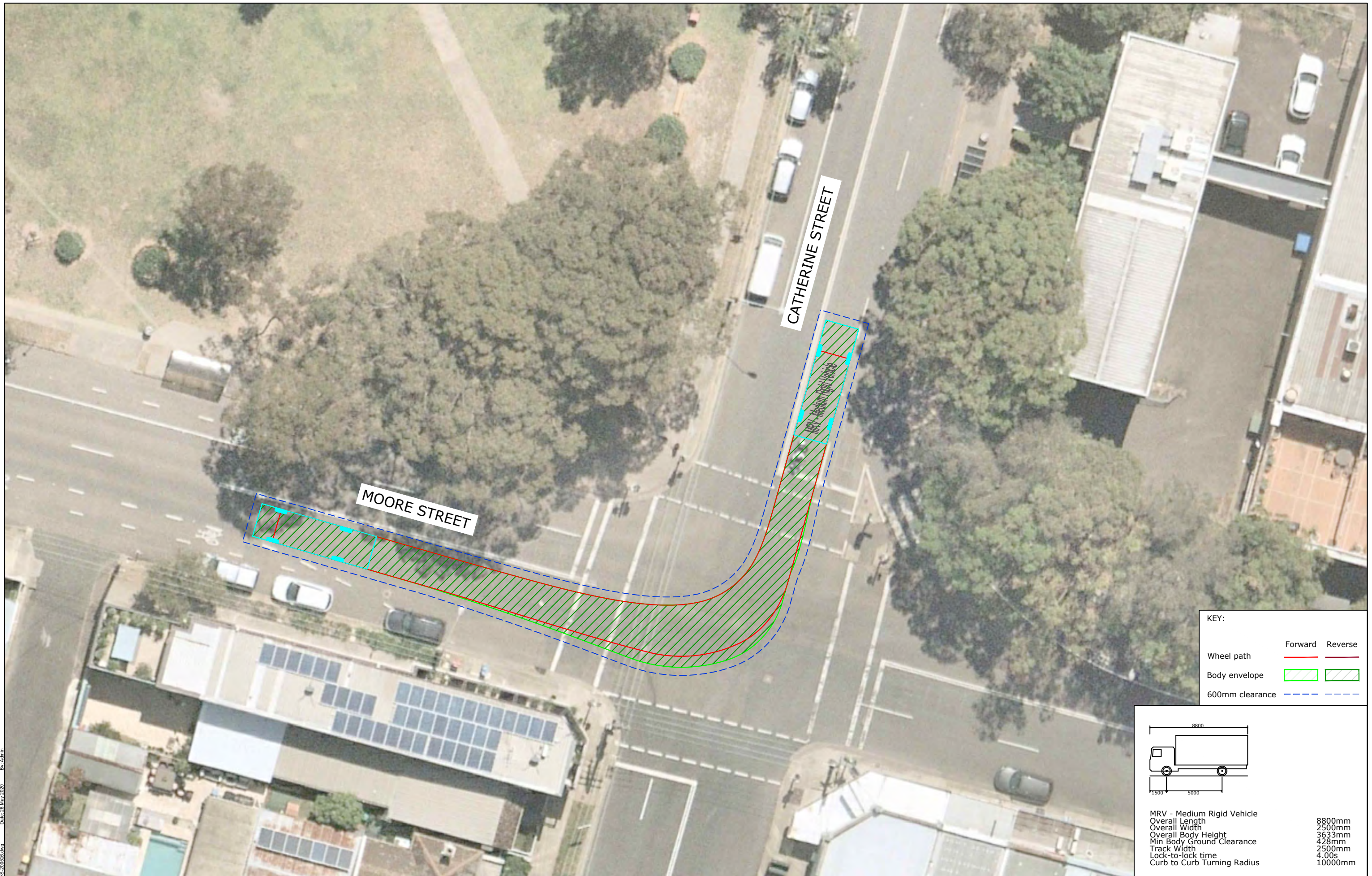
WestConnex
Rozelle Interchange

JOHN HOLLAND **CPB CONTRACTORS**

PROJECT	WESTCONNEX 3B
TITLE	SWEPT PATH ANALYSIS - BRENAN STREET TO CATHERINE STREET 8.729m TRUCKMIXER

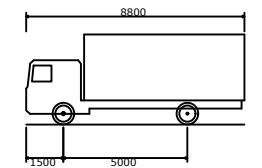
DWG No.	19021CAD156
	FIGURE 2
DATE STAMP	26 MAY 2020
PROJECT No.	19021
SCALE	1:250 @ A3
REV.	A

File name: 19021CAD156_SWEPT_PATH_20200526.dwg Date: 26 May 2020 By: Admin



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
600mm clearance		



MRV - Medium Rigid Vehicle	
Overall Length	8800mm
Overall Width	2500mm
Overall Body Height	3633mm
Min Body Ground Clearance	428mm
Track Width	2500mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10000mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

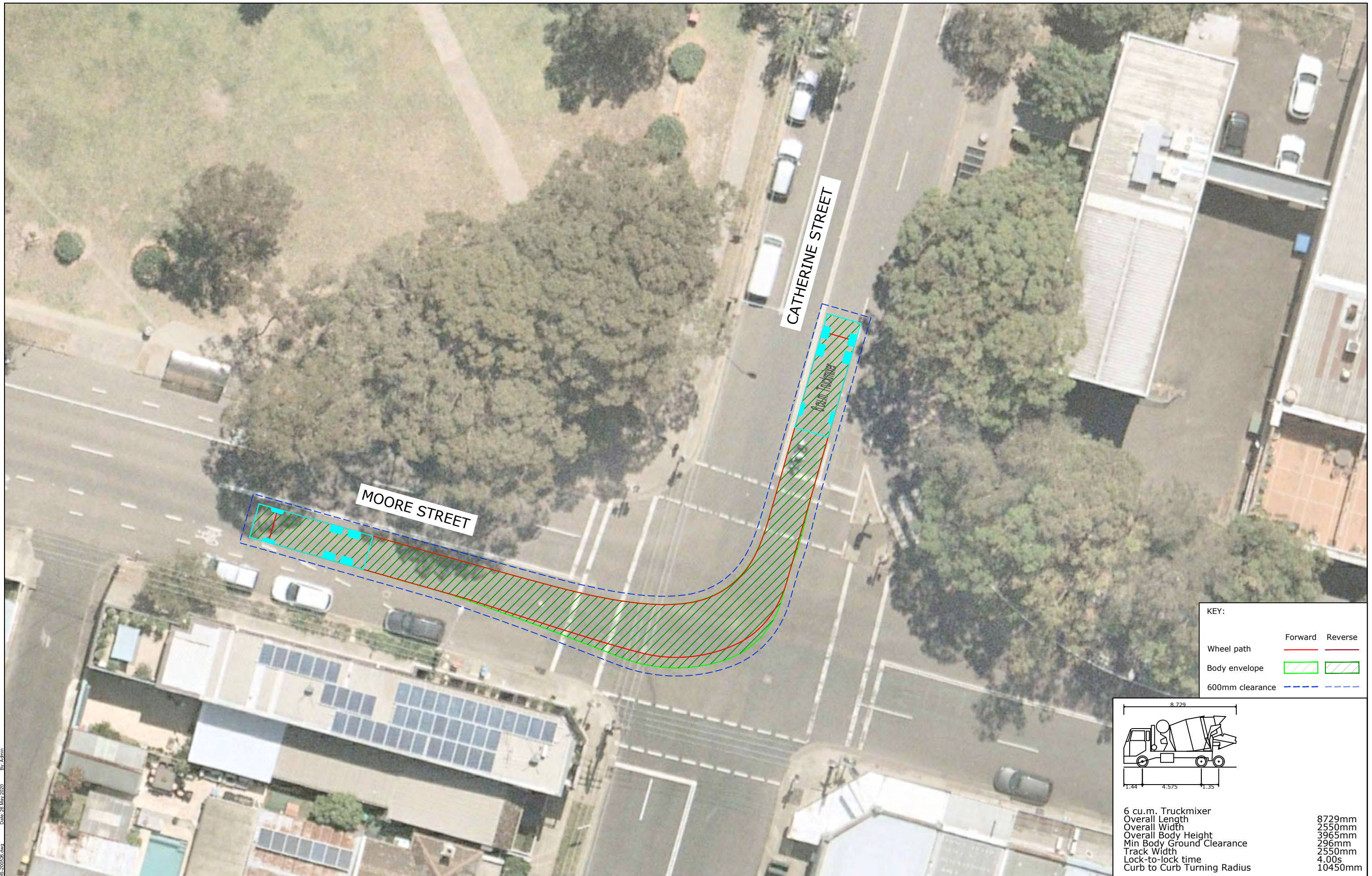
PROJECT: WESTCONNEX 3B

TITLE: SWEPT PATH ANALYSIS - CATHERINE STREET TO MOORE STREET
AS2890.2 8.8m MEDIUM RIGID VEHICLE

Logos: WestConnex, Rozelle Interchange, JOHN HOLLAND, CPB CONTRACTORS

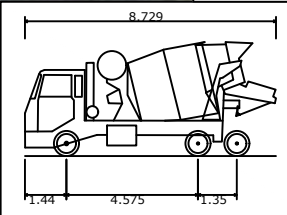
DWG No.	19021CAD156		
	FIGURE 3		
DATE STAMP	26 MAY 2020		
PROJECT No.	SCALE	REV.	
19021	1:250 @ A3	A	

Filename: 19021CAD156_SWEPT_PATH.dwg Date: 26 May 2020 By: Admin



KEY:

Wheel path	Forward	Reverse
Body envelope		
600mm 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

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

WestConnex
Rozelle Interchange

JOHN HOLLAND **CPB CONTRACTORS**

PROJECT: WESTCONNEX 3B

TITLE: SWEEP PATH ANALYSIS - CATHERINE STREET TO MOORE STREET
8.729m TRUCKMIXER

DWG No.	19021CAD156	
	FIGURE 4	
DATE STAMP	26 MAY 2020	
PROJECT No.	SCALE	REV.
19021	1:250 @ A3	A

File name: 19021CAD156_SWEEP_PATH.dwg Date: 26 May 2020 By: Admin



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
600mm clearance		

MRV - Medium Rigid Vehicle
 Overall Length 8800mm
 Overall Width 2500mm
 Overall Body Height 3633mm
 Min Body Ground Clearance 428mm
 Track Width 2500mm
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 10000mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

PROJECT: WESTCONNEX 3B

TITLE: SWEPT PATH ANALYSIS - MOORE STREET TO BALMAIN ROAD
AS2890.2 8.8m MEDIUM RIGID VEHICLE

Logos: WestConnex, Rozelle Interchange, JOHN HOLLAND, CPB CONTRACTORS

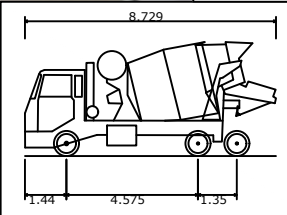
DWG No.	19021CAD156		
	FIGURE 5		
DATE STAMP	26 MAY 2020		
PROJECT No.	SCALE	REV.	
19021	1:250 @ A3	A	

File name: 19021CAD156-SWEPT PATH.dwg
 Date: 26 May 2020
 By: Admin



KEY:

Wheel path	Forward	Reverse
Body envelope		
600mm 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

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

WestConnex
Rozelle Interchange

JOHN HOLLAND **CPB CONTRACTORS**

PROJECT: WESTCONNEX 3B

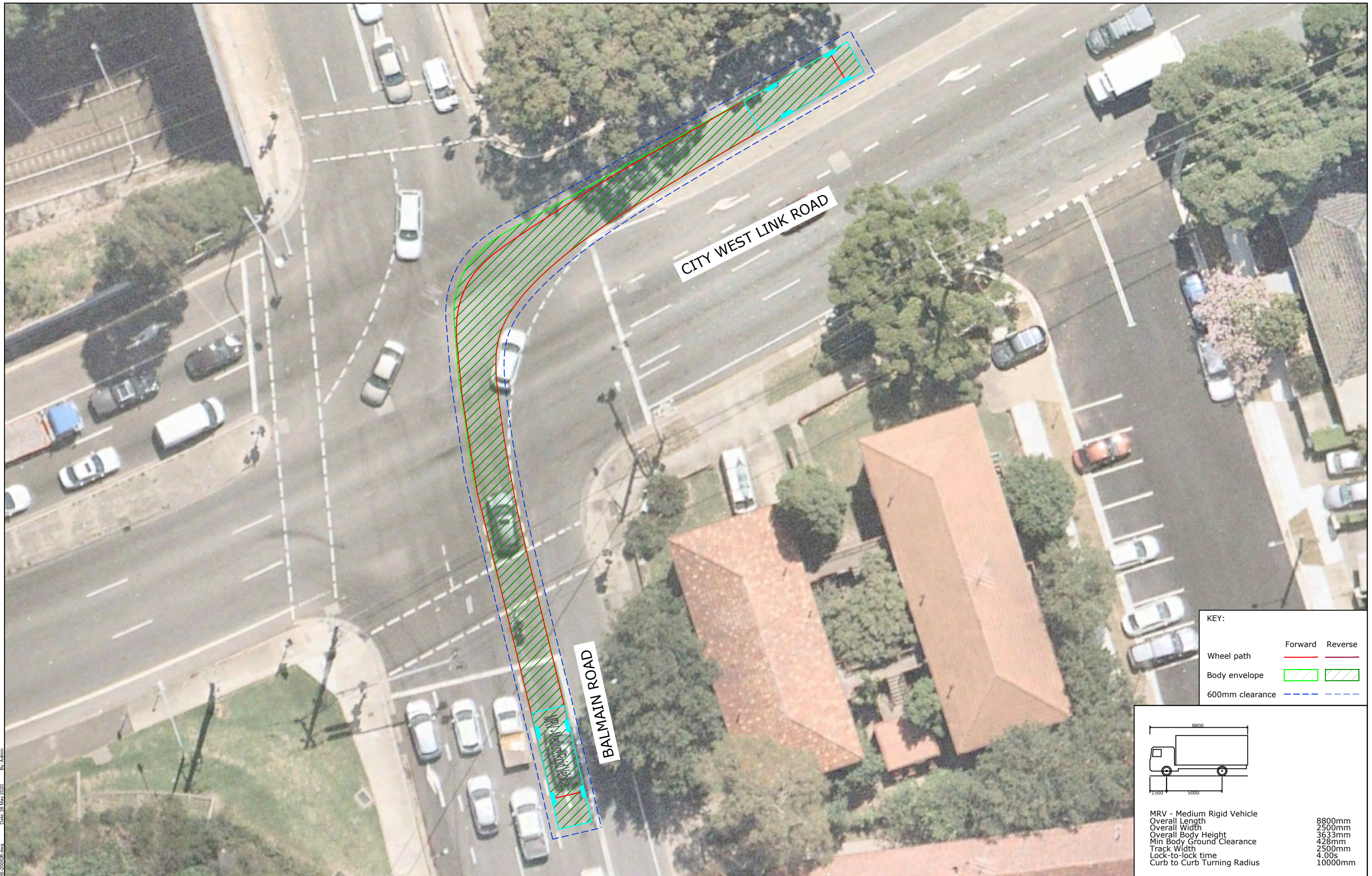
TITLE: SWEPT PATH ANALYSIS - MOORE STREET TO BALMAIN ROAD
8.729m TRUCKMIXER

DWG No. 19021CAD156
FIGURE 6

DATE STAMP: 26 MAY 2020

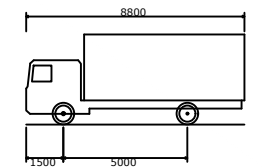
PROJECT No. 19021	SCALE 1:250 @ A3	REV. A
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File name: 19021CAD156_SWEPT_PATH.dwg Date: 26 May 2020 By: Admin



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
600mm clearance		



MRV - Medium Rigid Vehicle	
Overall Length	8800mm
Overall Width	2500mm
Overall Body Height	3633mm
Min Body Ground Clearance	428mm
Track Width	2500mm
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10000mm

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

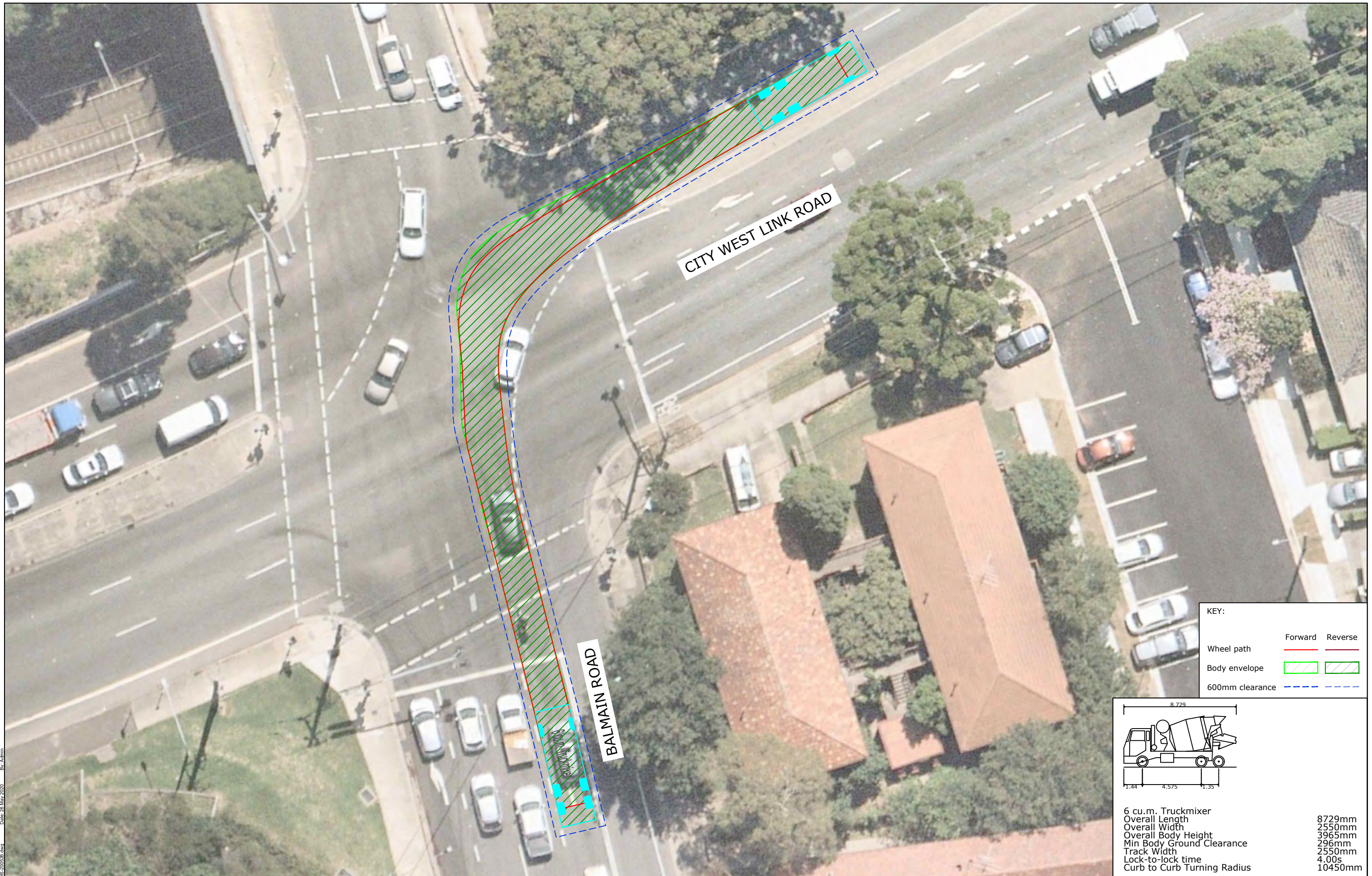
WestConnex
Rozelle Interchange

JOHN HOLLAND **CPB**
CONTRACTORS

PROJECT	WESTCONNEX 3B		
TITLE	SWEPT PATH ANALYSIS - MOORE STREET TO BALMAIN ROAD AS2890.2 8.8m MEDIUM RIGID VEHICLE		

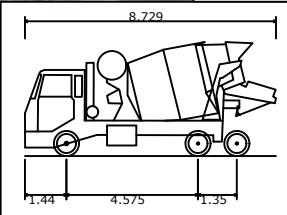
DWG No.	19021CAD156	
	FIGURE 7	
DATE STAMP	26 MAY 2020	
PROJECT No.	SCALE	REV.
19021	1:250 @ A3	A

By: Admin Date: 26 May 2020 File: 19021CAD156_SWEPT_PATH_AS2890.2.dwg



KEY:

	Forward	Reverse
Wheel path		
Body envelope		
600mm 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

REV.	DESCRIPTION	DRAWN	CHECK	APP'D	DATE
A	ISSUE FOR DISCUSSION	KM	DL	DL	26/05/20

PROJECT: WESTCONNEX 3B
 TITLE: SWEEP PATH ANALYSIS - MOORE STREET TO BALMAIN ROAD
 8.729m TRUCKMIXER

DWG No.	19021CAD156	
	FIGURE 8	
DATE STAMP	26 MAY 2020	
PROJECT No.	SCALE	REV.
19021	1:250 @ A3	A

File name: 19021CAD156_SWEEP_PATH_20200526.dwg Date: 26 May 2020 By: Admin

Annexure D Local road register – ‘other’ heavy vehicles

Local road(s)	Primary use	Mitigation measures / restrictions	Approved dates of use
Byrnes Street / Manning Street / Clubb Street, Rozelle	Delivery and removal of plant, equipment and materials associated with Project works	<ul style="list-style-type: none"> ▪ Drivers will be briefed on route and awareness of the community ▪ Pedestrian and public vehicle access will be maintained on the nominated roads ▪ Approximately 12 vehicle movements (6 in / 6 out) per day are expected along the nominated roads ▪ 12.5 m maximum heavy vehicle length ▪ Road dilapidation surveys have been undertaken for the nominated roads 	<p>09 September 2019 to 30 November 2019</p> <p>30 November 2019 to 31 January 2019</p> <p>1 February 2020 to 30 April 2020</p>
Brenan Street and Catherine Street, Lilyfield	Delivery and removal of plant, equipment and both construction and waste materials for Project works	<ul style="list-style-type: none"> ▪ Drivers will be briefed on route and awareness of the community ▪ Pedestrian and public vehicle access will be maintained on the nominated roads ▪ Approximately 28 vehicle movements (14 in / 14 out) per day are expected along the nominated roads ▪ 12.5 m maximum heavy vehicle length ▪ Road dilapidation surveys have been undertaken for the nominated roads 	<p>2 December 2019 to 29 February 2020</p> <p>29 February 2020 to 30 April 2020</p>
Moodie Street (north), Moodie Street (south), Terry Street, Yara Avenue, Springside Street, Callan Street, Margaret Street, Wellington Street, Warayama Place, Waterloo Street, Oxford Street, and Park Street	Delivery and removal of plant, equipment and both construction and waste materials for Project works	<ul style="list-style-type: none"> • Drivers will be briefed on route and awareness of the community • Pedestrian and public vehicle access will be maintained on the nominated roads, except where temporary road closures are required to enable works • It is expected that per day the following vehicle movements will occur: <ul style="list-style-type: none"> ○ 24 vehicle movements will occur on Moodie Street (north) (14 in / 14 out), ○ 24 vehicle movements will occur on Moodie Street (south) (14 in / 14 out), 	<p>31 January 2020 to 31 July 2020</p>

Local road(s)	Primary use	Mitigation measures / restrictions	Approved dates of use
		<ul style="list-style-type: none"> ○ 24 vehicle movements will occur on Terry Street (14 in / 14 out), ○ 20 vehicle movements will occur on Yara Avenue (10 in / 10 out), ○ 8 vehicle movements will occur on Springside Street (4 in / 4 out), ○ 8 vehicle movements will occur on Yara Avenue (4 in / 4 out), ○ 8 vehicle movements will occur on Callan Street (4 in / 4 out), ○ 20 vehicle movements will occur on Margaret Street (10 in / 10 out), ○ 44 vehicle movements will occur on Wellington Street as they exit Yara Avenue and Terry Street (24 in / 24 out), ○ 20 vehicle movements will occur on Wellington Street as they exit Yara Avenue onto Terry Street via Margaret Street (10 in / 10 out), ○ 8 vehicle movements will occur on Warayama Place (4 in / 4 out), ○ 24 vehicle movements will occur on Waterloo Street (14 in / 14 out), ○ 24 vehicle movements will occur on Oxford Street (14 in / 14 out), ○ 24 vehicle movements will occur on Park Street (14 in / 14 out). ● 12.5 m maximum heavy vehicle length ■ Road dilapidation surveys will be undertaken for the nominated roads prior to works commencing 	
Railway Parade, Annandale	Delivery and removal of plant, equipment and both construction and waste materials for Project works	<ul style="list-style-type: none"> ● Drivers will be briefed on route and awareness of the community ● Pedestrian and public vehicle access will be maintained on the nominated roads ● Approximately 12 vehicle movements (6 in / 6 out) per day are expected along the nominated roads ● 12.5 m maximum heavy vehicle length 	5 May 2021 to 31 August 2021

Local road(s)	Primary use	Mitigation measures / restrictions	Approved dates of use
		<ul style="list-style-type: none"> Road dilapidation surveys have been undertaken for the nominated roads 	

Annexure E Secondary restricted route justification

Route description	Route information	Justification
The Crescent (U-turn)	Heading South on the Crescent do a U-turn at Nelson Street, head north on the Crescent, turn left onto City West Link or right onto The Crescent Truck and dogs are not permitted to use this route as there is a childcare centre on the route.	This is the shortest route. If heavy vehicles were required to use an alternate and substantially longer route to avoid this direct route, they may be required to go past Forest Lodge School. This route has been chosen to minimise impacts on schools in accordance with REMM TT15. However, this route will only be available to some heavy vehicles such as small rigid vehicles because the turning circle is not wide enough for heavy rigid vehicles. This route includes the use of State Roads. No local roads will be used on this route.
The Crescent / Minogue Crescent / Ross Street	Parramatta Road, Ross Street, Minogue Crescent, The Crescent Truck and dogs are not permitted to use this route.	This is the quickest route and allows vehicles to turn West (away from the city) or East (towards the city). This route will be used intermittently throughout construction but will not be the primary route. This route will be used for: <ul style="list-style-type: none"> • long heavy vehicle deliveries (not spoil) that cannot use the U-turn at Nelson Street, such as long precast elements or long pile cages (large span deliveries) • high frequency deliveries and spoil heavy vehicles (not truck and dog). Including high frequency deliveries during the night-time restricted period of 10.00pm to 7.00am. The 10.00pm to 7.00 am timeframe is required to enable high frequency deliveries to continue for approved 24 hour tunnelling works. This route is required as the concrete manufacturer is located at Pymont on Bridge Road. While this route passes by the Forest Grove public school, the restricted timeframe for deliveries occurs outside of school hours. This route includes the use of State Roads. No local roads will be used on this route.
Darling Street / Balmain Road	Balmain Road (connecting Victoria Road and City West Link).	This route will be used for; <ul style="list-style-type: none"> • vehicles to traverse between the sites on the Iron Cove side of the Project and the Annandale side of the Project, • as a secondary route during cruise ship restricted times for high frequency deliveries. • for high frequency deliveries during the night-time restricted period of 10.00pm to 7.00am • to access Catherine and Brenan Street (as outlined in Section 4.5.3). This route includes the use of State Roads. No local road will be used on this route. JHCPB considered the use of a longer route to traverse between the sites via Homebush bay drive and Wattle Street. If this route were to be used, it would result in vehicles travelling an additional 16km to reach the Iron Cove site, increasing the risk of traffic delays, greenhouse gas emissions and increasing the number of heavy vehicles travelling on roads. Work at Iron Cove Link civil site will be planned to minimise the use of this route by scheduling deliveries direct to the Iron Cove Link civil site however some connectivity between the Project sites is required. The route is required to be used as a secondary route during the cruise ship restricted times for high frequency deliveries. The 10.00pm to 7.00 am timeframe is required to enable high frequency deliveries to continue for 24 hour tunnelling works. This route is required as the concrete manufacturer is located at Pymont on Bridge Road. While this route passes by the Forest Grove public school, the restricted timeframe for deliveries occurs outside of school hours. Truck and dogs are not permitted to use this route to increase safety for students travelling to Orange Grove Public School.
Lyons Road, Great North Road, Wattle Street, Dobroyd Parade	Victoria Road, Great North Road, Parramatta Road, Wattle Street, Dobroyd Parade and onto City West Link Truck and dogs are not permitted to use this route.	This is the shortest route along State Roads to return to the Rozelle civil and tunnel site. It is noted that this route passes through the Five Dock Town Centre shopping precinct along the Great North Road. JHCPB considered the use of a longer route via Homebush Bay Drive and Wattle Street. If this route were to be used, it would result in vehicles travelling an additional 16km to reach the Rozelle civil and tunnel site, increasing the risk of traffic delays, greenhouse gas emissions and increasing the number of heavy vehicles travelling on roads. This route includes the use of State Roads. No local roads will be used on this route.

Bridge Road	Access to Bridge Street via Minogue Crescent	<p>This route will be used for vehicles entering and exiting the site to traverse between the sites, as a secondary route. This route is important to maintain access to the Project from a concrete manufacturer at Pymont located on Bridge Road.</p> <p>This route is only able to be used during the times of:</p> <ol style="list-style-type: none"> 1. 10.00pm to 7.00am for tunnelling works high frequency deliveries. 2. outside of school zone hours for high frequency deliveries and spoil heavy vehicles (not truck and dog) <p>The 10.00pm to 7.00 am timeframe is required to enable high frequency deliveries to continue for 24 hour tunnelling works. This route is required as the concrete manufacturer is located at Pymont on Bridge Road.</p>
Johnston St	Heading east along Parramatta Rd, left into Johnston St and left into the The Crescent	<p>This route is only to be used by vehicles accessing works on Johnston St. No truck and dogs will use this route. This route passes North Annandale public school. This is an EIS identified route on State Roads with no local road use.</p> <p>The use of this route is required during the works to be undertaken as outlined in the EIS. The construction of the drainage works will include construction activities such as materials delivery (quarry materials), trenching, pipe placement, backfilling, installation of pre cast stormwater pit inlets and re-instatement of kerbs and road.</p>
Lilyfield Road	<p>Victoria Road, Lilyfield Road, Balmain Road, City West Link</p> <p>No truck and dogs are permitted to use this route</p>	<p>This route will be used intermittently throughout construction for spoil (no truck and dog) and high frequency deliveries during cruise ship days and 'by exception' where access to the Project site via James Craig Road and Sommerville Road is restricted.</p> <p>It will provide an efficient route from the Victoria Road civil site and the Rozelle civil site from Victoria Road, Lilyfield Road to City West Link.</p> <p>This route will be used;</p> <ul style="list-style-type: none"> • as a secondary route during cruise ship restricted times for high frequency deliveries <p>When the access point from Victoria Road to Lilyfield Road is closed for this route, the alternate Secondary Restricted route of City West Link, Balmain Road, Lilyfield Road, Catherine Street to City West link will be required.</p>
Balmain Road, Lilyfield Road, Catherine Street	<p>Balmain Road (south), Lilyfield Road (east), Catherine Street (heading south from Lilyfield Road), City West Link and</p> <p>City West Link, Balmain Road (north), Lilyfield Road (east), Catherine Street (heading south from Lilyfield Road)</p>	<p>This route will be used intermittently throughout construction for spoil (no truck and dog) and high frequency deliveries for:</p> <ul style="list-style-type: none"> ▪ cruise ship restricted days; ▪ as a return route from The Crescent civil site (C6) to Rozelle Rail Yards (C5) civil site. ▪ when the access point at James Craig / Sommerville Road is closed ▪ entry to the Whites Creek Link bridge site (as outlined in Section 5.2.2) ▪ 'by exception' where access to the Project site via James Craig Road and Sommerville Road is restricted. <p>This route provides the most efficient route for use during these scenarios. The maximum number of heavy vehicles at peak for this route will not be used continuously. The proposed scenarios have varying staging requirements resulting in the use of this route at different stages of the Project.</p>
Catherine Street, Moore Street, Balmain Road	Catherine Street (heading south towards Moore Street) Moore Street, Balmain Road, City West Link	<p>This route will be used for spoil (no truck and dog) and high frequency deliveries associated with the Whites Creek Link bridge site as an exit route (as outlined in Section 5.2.2). This route is required for use to return to the Rozelle civil and tunnel site and to permit heavy vehicles to travel east along City West Link.</p>
Johnston Street – North bound	Parramatta Road, Johnston Street (north), The Crescent	<p>This route will be used for spoil Truck and Dog heavy vehicles. Truck and Dog heavy vehicles are proposed to use this route from Parramatta Road, heading north along Johnston Street, left into The Crescent and left into the western portion of The Crescent civil site (C6). The purpose of the use of Truck and Dogs is to reduce the overall number of truck movements required to remove excavated material from general construction activities from the Crescent civil site (C6).</p> <p>Truck and Dog heavy vehicles will exit The Crescent civil site onto The Crescent and left onto City West Link. Use of this route by Truck and Dog heavy vehicles will provide an overall reduction in heavy vehicle movements by approximately 3092 one way movements.</p>
Johnston Street – South bound	City West Link, The Crescent, Johnston Street, Parramatta Road	<p>This route will be used for spoil Truck and Dog heavy vehicles. Truck and Dog heavy vehicles are proposed to use this route from The Crescent civil site (C6) (accessed via City West Link) to travel to Parramatta Road. The heavy vehicles will exit the site onto The Crescent, turn right into Johnston Street and head south along Johnston Street to Parramatta Road. The purpose of the use of Truck and Dog heavy vehicles is to reduce the overall number of truck movements required to remove excavated material from the excavation of the channel under Whites Creek bridge and transport to a licensed waste facility.</p> <p>Use of this route by Truck and Dog heavy vehicles will provide an overall reduction in heavy vehicle movements by approximately 1556 one way movements.</p>

Annexure F Local road CoA E51 assessment

1. Local road use

1.1.1. Rozelle civil and tunnel site (C5)

CoA E51 requirement – James Craig Road / Sommerville Road

A traffic and pedestrian impact assessment has been included in Table 28 to address the requirements of CoA E51 for access to the Rozelle civil and tunnel site / Victoria Road civil site and Glebe Island civil site via James Craig Road and Sommerville Road. The location and use of these roads are shown in Figure 29.

Spoil and high frequency vehicle movements will use the local roads of James Craig Road and Sommerville Road, which are surrounded by commercial / industrial land uses. A maximum of 380 heavy vehicle movements daily would use these roads to access and egress the site.

Table 28 James Craig Road / Sommerville Road traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> ▪ Access to these roads is contingent on the Project maintaining a Deed of Licence with NSW Port Authority and the route is specified as the approved access path in the Deed of Licence. ▪ The route is a 26 m B-double RMS-approved route and therefore no swept path analysis has been completed. ▪ James Craig Road is a two-lane undivided road providing access for business on Glebe Island to the wider classified road network. Glebe Island contains several bulk good facilities which store refined sugar, gypsum and cement. These facilities use the internal road network of Glebe Island via James Craig Road to distribute these goods by truck to a variety of locations in the Sydney Basin. The route is signed at 50km/h. There is a shared cycling and pedestrian path along the northern footpath. ▪ Sommerville Road is a minor two-lane road. Sommerville Road provides access to the internal road network within Glebe Island. It is the main access route between James Craig Road and Glebe Island. There is a ramp that links Sommerville Road to the Anzac Bridge pedestrian and cycling facilities. The ramp provides to Glebe Island and James Craig Road for pedestrian and cyclists. It is signposted at 30km/h for trucks, and a 50km/h speed zoning applies to all other vehicles.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> ▪ A Traffic Management Plan has been reviewed by Port Authority and will be approved by TfNSW and Transport Management Centre prior to the use of site access points. ▪ Existing signalised pedestrian crossings will continue to be used at the James Craig Road / The Crescent intersection. ▪ Acoustic amenity is consistent with the environment as a commercial / industrial / ports precinct.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past	<ul style="list-style-type: none"> ▪ No schools, aged care facilities or child-care facilities are located along the portion of the roads proposed to be used for heavy vehicle use.

Condition of Approval E51 requirement	Mitigation strategies / approach
schools, aged care facilities and child-care facilities during peak times for operation.	

Figure 29 James Craig / Sommerville Road



1.1.2. Local road use – Victoria Road Civil site (C7)

At the Victoria Road Civil site minor impacts from construction vehicles are expected to the eastern end of Hornsey Street. The properties at the corner of Hornsey and Lilyfield Road and Victoria Road will be accessed by the existing driveways on both streets.

1.1.2.1. CoA E51 requirement – Hornsey Street and Gordon Street

A traffic and pedestrian impact assessment has been included in Table 30 to address the requirements of CoA E51 for the access gate to the Victoria Road civil site (C7) on Hornsey Street and in Table 31 for the use of Gordon Street.

The use of Hornsey and Gordon streets are required for heavy vehicles for the period of Q2 2020 to Q4 2020, when access to Victoria Road will not be available. Access onto Victoria Road will be closed, due to the construction of the cul-de-sac for Hornsey Street and the grade separation that will occur between Victoria Road and Hornsey Street. Vehicle access to Victoria Road will not be available. As vehicle access is not available, the use of Gordon and Hornsey Street is required to construct the cul-de-sac at the eastern end of Hornsey Street. No alternate routes are available.

During this time, Project activities will include construction of the cul-de-sac and private driveways, services re-location and installation and mill and re-sheeting.

At peak (during Q2 2020 – Q3 2020), a maximum of 14 two-way heavy vehicle movements per day (maximum 4 per hour) would use Hornsey Street / Gordon Street to access and egress the site on a daily basis. An outline of the daily vehicles maximum amounts will vary according to the construction activity as outlined in Table 29

Gordon and Hornsey streets will not be used by truck and dog heavy vehicles. Gordon and Hornsey will be used by spoil and high frequency heavy vehicles. Other vehicles will also utilise these routes where infrequent deliveries for mobilisation of plant and equipment and utility activities are required.

Heavy vehicle local road haul routes utilising Hornsey Street are shown in Figure 30. Swept path analyses for Hornsey Street (from Victoria Road and via Gordon Street) are provided in Annexure C.

A traffic and pedestrian impact assessment has been included below to address the requirements of CoA E51.

Table 29 Proposed schedule for heavy vehicles - Hornsey Street

Timing	Daily heavy vehicle maximum	Heavy vehicle type	Justification
Q2 2020 – Q3 2020	A total of 14 two-way heavy vehicle movements per day (maximum 4 per hour) between 7.00am to 6.00pm	Spoil High frequency deliveries	The maximum number of heavy vehicles daily is at peak during the use of Hornsey Street to enable site mobilisation, including piling works. This peak period is anticipated for a 1 month duration only (during April Q2) for piling works.
Q3 – Q4 2020		Spoil High frequency deliveries	The maximum number of heavy vehicles daily is at peak during a 3 week duration for kerb, gutter, mill and re-sheeting for the cul-de-sac construction activities.
Q4 2020 – Q1 2021	2	Other	Remaining heavy vehicle use for 'other' category types as construction de-mobilisation occurs.

Table 30 Hornsey St traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> ▪ A swept path analysis for access from Victoria Road that would be used during site establishment activities is presented in Annexure C. This analysis demonstrates sufficient space within the street for a rigid heavy vehicle. ▪ Truck and dogs are not permitted to use the access point from Victoria Road ▪ Swept path analysis between Hornsey Street and Gordon Street are shown in Annexure C. This analysis demonstrate sufficient space within the street for heavy vehicle movements. ▪ Hornsey Street is a two-lane two-way local street with a 9-10m wide carriageway. The sign posted speed limit on Hornsey Street is 50km/h. ▪ The width of the existing footpath varies between 1.5 and 2m. ▪ Cycling facilities and bus stops are not provided on Hornsey Street.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> ▪ Authorised traffic controllers will be placed at the site access. ▪ Acoustic amenity is consistent with the local noise environment adjacent to a major arterial road. ▪ Access is designed to comply with; <ul style="list-style-type: none"> ▸ Roads and Maritime Traffic Control at Worksites Manual (2018)

Condition of Approval E51 requirement	Mitigation strategies / approach
	<ul style="list-style-type: none"> › Roads and Maritime Delineation Manual (March 2008) › Roads and Maritime Road Safety Audit Technical Direction TD2003/RS03, Version 2 (August 2005) › Roads and Maritime Road Occupancy Manual (2015) › Roads and Maritime Road Design Guide (2015) › Roads and Maritime NSW Bicycle Guidelines › AUSTRROADS Guide to Traffic Management - Parts 1-13 › AUSTRROADS Guide to Road Design - Parts 1-8 › AUSTRROADS Guide Road Safety - Parts 1-9 › Australian Standard 1742.3-2009 Traffic control devices for works on roads › Australian Standard 1742 Parts 1 to 14, Manual of uniform traffic control devices (as required) › Australia Road Rules.
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> ▪ A portion of the road is within the permanent works footprint of the Project. Pavement, curb and gutter and landscaping works are part of the Project scope. Therefore, no road dilapidation survey will be undertaken for this portion of the road.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.	<ul style="list-style-type: none"> ▪ The heavy vehicle path along Hornsey Street does not pass schools, aged care facilities or child-care facilities. ▪ The authorised traffic controller will guide trucks to not pass through the site access while pedestrians are crossing the site access.

Table 31 Gordon Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> ▪ Swept path analyses are presented in Annexure C. This analysis demonstrates sufficient space within the street for heavy vehicle movements. ▪ Gordon Street is a two-lane two-way local street with a 9m wide carriageway. ▪ The sign posted speed limit of Gordon Street is 50km/h. ▪ No access is available to Gordon Street from Victoria Road. ▪ Footpaths are provided on both sides of the road ▪ The width of the existing footpath varies between 2.2m and 3.5m. ▪ Cycling facilities and bus stops are not currently provided on Gordon Street.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> ▪ Acoustic amenity is consistent with the adjacent works / the local environment during construction as the heavy vehicle will be travelling a slow speed (50km/hr) and limited to approximately 14 heavy vehicles per day. ▪ Temporary pedestrian fencing will be installed in those locations where existing fencing / barriers are not present to prevent any mid-block attempts along Gordon Street when crossing to Victoria Road. ▪ Traffic management and control devices proposed to be installed include cyclist signposting and cyclist pavement marking compliant with Australian Standard 1742 - <i>Manual of Uniform Traffic Control Devices</i> for on-road shared cyclist facilities.

Condition of Approval E51 requirement	Mitigation strategies / approach
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.	<ul style="list-style-type: none"> ▪ Heavy vehicles on Gordon Street do not pass aged care facilities or child-care facilities. ▪ St Joseph’s Catholic Church (locally listed heritage item, 1768) and Sydney Community College is located on Gordon Street, near the intersection with Victoria Road. Heavy vehicles may only access this portion of Gordon Street in one direction (towards Victoria Road). During the required works, heavy vehicles will not use Gordon Street during Sunday worship



Figure 30 Hornsey Street and Gordon Street

1.1.3. Local road use - The Crescent civil site (C6)

Traffic and pedestrian impact assessments have been included in the following sections to address the requirements of CoA E51 for access and egress to and from the Whites Creek Link bridge. The location and use of these roads are shown in Figure 31 and Figure 32.

Heavy vehicle access is required along Catherine and Brenan streets from Q3 2020 to Q2 2023 for the delivery of equipment and materials and construction activities. Entry access is required via Brenan and Catherine Streets in order to construct the Whites Creek Link bridge, as the site cannot be directly accessed from City West Link. Exit access from the Whites Creek Link bridge site is required from Brenan Street, south along Catherine Street, west along Moore Street and north along Balmain Road to City West Link. This exit route is required to provide a return route for heavy vehicles back to the Rozelle Rail Yards civil site (C5) and to access City West Link for heavy vehicles to travel in an easterly direction. The proposed Whites Creek Link bridge directly adjoins the City West Link major arterial road. The construction of the Whites Creek Link bridge will occur until Q2 2023. Access for construction activities via City West Link for an extended period to

construct the bridge is not achievable. Access along Brenan Street is required as to avoid traffic impacts on City West Link. No other alternate routes are available to access the site.

At peak periods only between Q2 2020 - Q3 2020 and during pad removal between 7.00am and 6.00pm a total of 20 heavy vehicle movements per day (average) with 40 heavy vehicles per day (peak) would use Catherine and Brenan Streets to access and egress the site. At peak periods only between Q2 2020 - Q3 2020 and during pad removal between 7.00am and 6.00pm a total of 20 heavy vehicle movements per day (average) with 40 heavy vehicles per day (peak) would use Catherine Street, Moore Street and Balmain Road to egress the site. An outline of the daily vehicles maximum amounts will vary according to the construction activity as outlined in Table 32 below.

Catherine and Brenan Street will be used by spoil and high frequency heavy vehicles during construction of the piling pad and other construction activities as outlined in the table below. Other vehicles will also utilise the routes where infrequent deliveries for mobilisation of plant and equipment are required. A traffic and pedestrian impact assessment has been included in Table 33 to address the requirements of CoA E51.

Table 32 Indicative proposed schedule for heavy vehicles – Catherine street and Brenan street

Timing	Daily heavy vehicle maximum	Heavy vehicle type	Justification
Q2 2020	40	Spoil	The maximum number of heavy vehicles daily is at peak during the use of Brenan and Catherine Streets to enable construction of the piling pad. Spoil vehicles will access the Whites Creek Link bridge site from Catherine and Brenan Street. The vehicles will exit via Brenan and Catherine Streets. Where re-use of spoil from the Rozelle Railyards site is occurring, spoil vehicles will return from the Whites Creek Link bridge site to RRY via City West Link, Balmain Road, Lilyfield Road and Catherine Street back onto City West Link as no right turn movement is available from Catherine Street heading east onto City West Link.
Q3 2020	40	High frequency deliveries Spoil	During piling, a maximum of 40 heavy vehicles daily for spoil and high frequency deliveries would use Catherine and Brenan Streets to access and egress the site.
Q3 2020	40	High frequency deliveries Spoil	During excavation, a maximum of 40 heavy vehicles daily for spoil and high frequency deliveries would use Catherine and Brenan Streets to access and egress the site.
Q3 2020 – Q4 2020	40	High frequency deliveries Spoil	The maximum number of heavy vehicles daily is at peak during the use of Brenan and Catherine Streets to enable the construction of the piling pad and crane pad construction for the construction of the pedestrian bridge.
Q4 2020 – Q2 2021	40	High frequency deliveries Spoil	A maximum of 40 heavy vehicles daily for spoil and high frequency deliveries would use Catherine and Brenan Streets to access and egress the site for removal of the piling pad and concreting activities.
Q2 2021 – Q3 2023	20	High frequency deliveries	During bridge installation, a maximum of 20 heavy vehicles daily would use Catherine and Brenan Streets to access and egress the site.
	40	High frequency deliveries Spoil	During pad removal, a maximum of 40 heavy vehicles daily would use Catherine and Brenan Streets to access and egress the site.
	30	High frequency deliveries	Once construction activities are completed, landscaping around the pedestrian bridge would occur. A maximum

		Spoil	of 30 heavy vehicles daily would use Catherine and Brenan Streets to access and egress the site while landscaping works are being completed
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Table 33 Catherine and Brenan Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> ▪ A swept path analysis is presented in Annexure C. This analysis demonstrates sufficient space within the street for a 12.5m heavy rigid vehicle and 19 m semi-trailer. ▪ Catherine Street is a two-way local road and has a carriageway width of approximately 6m. ▪ Brenan Street is a two-way local road adjoining with Catherine, Percival, Starling, Gladstone and White Streets and Railway Parade and has a carriageway width of 8-10 m. ▪ The sign-posted speed limit is 50 Km/hr on Catherine and Brenan Street. ▪ The existing footpaths on Catherine and Brenan Street range between 1.4 – 2.0 m wide.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<p>An assessment of the proposed route has been undertaken and deemed appropriate for heavy vehicles on the following basis:</p> <ul style="list-style-type: none"> ▪ Swept path analysis has been undertaken for medium rigid vehicles & concrete agitators for the nominated route – the analysis shows that the vehicles can negotiate this route without issue. ▪ The Project requires driver training for heavy vehicle drivers. All drivers will take the mandatory WestConnex Stage 3B project specific Heavy Vehicle Driver Introduction Training. ▪ There are no regulatory restrictions that would otherwise prevent heavy vehicles using this route. ▪ The proposed increase in volume of medium rigid vehicles at peak is 4 vehicles per hour, which is an additional 1 vehicle every 2 signal cycles (140 seconds per cycle) through the intersection (Balmain Road and City West Link, Balmain Road and Lilyfield Road, Catherine Street and City West Link). It is unlikely that the resulting increase of traffic volumes will have a noticeable effect on the network. ▪ It is configured as a two-lane, two-way road with a 13m wide carriageway that widens to a 3-lane road on approach to its intersection with City West Link and Moore St. Dedicated parking and a bus stops is provided along the length of Catherine St – the arrangement varying along its length. ▪ A dedicated bike lane is provided for 190m southbound, originating at City West Link, until it becomes a mixed traffic lane. A dedicated bike lane is provided for 300m northbound - originating 50m north of Moore St – until it becomes a mixed traffic lane for the rest of its length. ▪ The default speed limit on Catherine Street is 50km/h. ▪ Pedestrian and cyclist access will be maintained at all times on Catherine Street. The existing on-road cycle lane will remain open on Catherine Street. Both sides of Catherine Street have a dedicated pedestrian footpath which will not be impacted by the proposed use of Catherine Street for heavy vehicles. ▪ There is no change to on-street parking on the eastern side of Catherine Street. Parking is not permitted on the western side of Catherine Street. The construction workforce will not utilise Catherine Street for parking for the Whites Creek Link bridge site. ▪ No property access will be affected by the use of this route.

Condition of Approval E51 requirement	Mitigation strategies / approach
	<ul style="list-style-type: none"> ▪ JHCPB is proactive in its dealings with the community. The Project team will continue to notify the community and stakeholders of upcoming construction works and traffic changes. ▪ Acoustic amenity is consistent with the adjacent works / the local environment during construction as the heavy vehicle will be travelling a slow speed (10km/hr).
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> ▪ The road dilapidation survey will be undertaken for the remaining portion of the road, outside the footprint prior to the commencement of use.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.	<ul style="list-style-type: none"> ▪ The southern route will pass My Stepping Stones Childcare, and pass near Sydney Secondary College Leichhardt. These two locations are on Moore Street and Balmain Road respectively. ▪ If the southern route was to continue down Catherine Street the route will have to pass St Fiacre Catholic School, and near Styles Street Children's Community Long Daycare.



Figure 31 Catherine and Brennan Street – entry



Figure 32 Catherine and Brennan Street - exit

1.1.4. Local road use – Rozelle civil and tunnel site (C5), Victoria Road civil site (C7) and The Crescent civil site (C6)

A traffic and pedestrian impact assessment has been included in the following section to address the requirements of CoA E51 for the use of Catherine Street for the route shown in Figure 33 and as outlined in Table 34.

Heavy vehicle access is required along Balmain Road heading north, Lilyfield Road heading east and Catherine Street heading south to City West link from Q3 2020 to Q3 2023 for spoil and high frequency heavy vehicles. Access is required via this route for:

- During the cruise ship restricted period for high frequency vehicles when the Lilyfield Road / Victoria Road access point is closed
- When the James Craig/Sommerville Road access point into the project is closed due to the Rozelle Rail Yards (C5) and Victoria Road civil site (C7) construction works. When this access point is closed, no heavy vehicle access will be available requiring use of the other gates (via Primary restricted routes) and secondary restricted routes by heavy vehicles.
- As an efficient route for return of spoil and high frequency heavy vehicles from The Crescent civil site (C6) to Rozelle Rail Yards (C5).
- As an entry route to the Whites creek link bridge construction site (refer Section 5.2.2)
- For use by exception (refer Section 5.2.2.3).

A traffic and pedestrian impact assessment has been included in Table 35 to address the requirements of CoA E51.

Table 34 heavy vehicle split for Balmain Road / Lilyfield Road / Catherine Street route

Heavy vehicle type	Daily heavy vehicle maximum	Restriction	Justification
High frequency / Spoil	80	Limit maximum 80 per day and maximum 8 per hour	For Project daily use with a daily maximum of 80 heavy vehicles and maximum 8 per hour No truck and dog heavy vehicles
	96	Limit maximum 96 heavy vehicles and 15 per hour during cruise ship times of 7.00 am to 10.00am	Increase in heavy vehicle maximum numbers during 7.00am to 10.00 am only during the cruise ship restricted period. No truck and dog heavy vehicles
	117	Limit maximum 117 and 15 heavy vehicles per hour when James Craig Road / Sommerville Road is closed shut	Increase in heavy vehicle maximum numbers during James Craig Road / Sommerville Road closures only. Required for use during the James Craig Road / Sommerville road access closure. This access point will not be closed continuously through the Project. The access point will be closed to permit construction of specific activities for the approved Project. Construction activities that will require closure of the access point to complete include: <ul style="list-style-type: none"> • the construction of the western and eastern temporary access roads; • demolition and re construction of the Victoria Road bridge; and

			<ul style="list-style-type: none"> removal of temporary access roads once Victoria Road is re-constructed. <p>No truck and dog heavy vehicles</p>
	147	Limit maximum 147 heavy vehicles during the cruise ship restricted period and closure of James Craig Road / Sommerville Road access gate (maximum of 15 per hour increasing up to 20 per hour during cruise ship times of 7.00 am to 10.00am	<p>Increase in heavy vehicle maximum numbers during James Craig Road / Sommerville Road closures and the cruise ship restricted period. The cumulative total of 147 heavy vehicles is worst case scenario when the James Craig/Sommerville Road access point is shut, the cruise ship restricted period is enacted, and the Whites Creek Link bridge civil site construction is at peak.</p> <p>No truck and dog heavy vehicles.</p> <ul style="list-style-type: none">

Table 35 Catherine Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> A swept path analysis is presented in Annexure C. This analysis demonstrates sufficient space within the street for a 12.5m heavy rigid vehicle and 19 m semi-trailer. Catherine Street is a two-way local road and has a carriageway width of approximately 6m. The sign-posted speed limit is 50 Km/hr on Catherine Street. The existing footpaths on Catherine Street range between 1.4 – 2.0 m wide.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<p>An assessment of the proposed route has been undertaken and deemed appropriate for heavy vehicles on the following basis:</p> <ul style="list-style-type: none"> Swept path analysis has been undertaken for medium rigid vehicles & concrete agitators for the nominated route – the analysis shows that the vehicles can negotiate this route without issue. Up to 147 heavy vehicles will use Catherine Street at peak (..The average daily use of Catherine Street will be a maximum of 80 heavy vehicles. The Project requires driver training for heavy vehicle drivers. All drivers will take the mandatory WestConnex Stage 3B project specific Heavy Vehicle Driver Introduction Training. There are no regulatory restrictions that would otherwise prevent heavy vehicles using this route. The proposed increase in volume of medium rigid vehicles at peak is between 8 to 15 vehicles per hour on average, which is approximately an additional 1 vehicle every 2 signal cycles (140 seconds per cycle) through the intersection (Balmain Road and City West Link, Balmain Road and Lilyfield Road, Catherine Street and City West Link). It is unlikely that the resulting increase of traffic volumes will have a noticeable effect on the network. The proposed increase in volume of medium rigid vehicles at peak is 6 heavy vehicles per hour, which is an additional 1 vehicle every 6.5 signal cycles (140 seconds per cycle) through the intersection (Balmain Road, City West link from Moore and Catherine Streets). It is unlikely that the resulting increase of traffic volumes will have a noticeable effect on the network. It is configured as a two-lane, two-way road with a 13m wide carriageway that widens to a 3-lane road on approach to its intersection with City West Link. Dedicated parking and a bus

Condition of Approval E51 requirement	Mitigation strategies / approach
	<p>stops is provided along the length of Catherine St – the arrangement varying along its length.</p> <ul style="list-style-type: none"> ▪ A dedicated bike lane is provided for 190m southbound, originating at City West Link, until it becomes a mixed traffic lane. ▪ The default speed limit on Catherine Street is 50km/h. ▪ Pedestrian and cyclist access will be maintained at all times on Catherine Street. The existing on-road cycle lane will remain open on Catherine Street. Both sides of Catherine Street have a dedicated pedestrian footpath which will not be impacted by the proposed use of Catherine Street for heavy vehicles. ▪ There is no change to on-street parking on the eastern side of Catherine Street. Parking is not permitted on the western side of Catherine Street. ▪ No property access will be affected by the use of this route. ▪ JHCPB is proactive in its dealings with the community. The Project team will continue to notify the community and stakeholders of upcoming construction works and traffic changes. ▪ Acoustic amenity is consistent with the adjacent works / the local environment during construction as the heavy vehicle will be travelling a slow speed (10km/hr).
<p>(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and</p>	<ul style="list-style-type: none"> ▪ The road dilapidation survey will be undertaken for the remaining portion of the road, outside the footprint prior to the commencement of use.
<p>(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.</p>	<ul style="list-style-type: none"> ▪ No schools, aged care facilities and child-care facilities are located on Catherine Street.



Figure 33 Catherine Street route

1.1.5. Local road use – Iron Cove Link Civil site (C8)

Traffic and pedestrian impact assessments have been included in the following sections to address the requirements of CoA E51 for access and egress to and from the Iron Cove Link civil site. The location and use of these roads are shown in Figure 34.

The use of Byrnes Street, Clubb Street, Callan Street, Toelle Street, Manning Street, McCleer Street and Springside Street is required to enable construction of the Byrnes Street and Clubb Street cul-de-sacs, the retaining wall along the western boundary of Victoria Road, and the construction of a new intersection at the corner of Callan Street and Victoria Road.

From 7.00am to 6.00pm a cumulative total of 42 two-way heavy vehicle movements per day across all the above local streets is approved for heavy vehicle use.

Intermittent usage would also occur where access from within the Iron Cove Link civil site is restricted due to the spatial constraints and construction sequencing. This includes when construction of the new westbound Victoria Road results in a level difference that prevents internal movements. During this time, Project activities will include construction of the cul-de-sac, service re-location and installation and mill and re-sheeting.

An outline of the use of these local roads and proposed construction activities is included in Table 36 below.

Table 36 Iron Cove Civil Link project activities for local road usage

Local road	Justification
Byrnes Street, Clubb Street, Callan Street, Toelle Street, Manning Street, McCleer Street / Springside Street	<p>Access required to:</p> <ul style="list-style-type: none"> • construct Byrnes Street and Clubb Street cul-de-sac • construct the retaining wall along the western boundary of Victoria Road ▪ construct the new intersection at the corner of Callan Street and Victoria Road <p>Project activities:</p> <ul style="list-style-type: none"> • Service re-location and installation • Pavement mill and re-sheeting
Clubb Street	<p>No access to Victoria Road will be available due to the permanent closure of access to Victoria Road and construction of a cul-de-sac</p> <p>Project activities:</p> <ul style="list-style-type: none"> ▪ Landscaping ▪ Footpath and maintenance bay construction ▪ Relocation of street light poles ▪ Drainage installation ▪ Pavement construction (cul-de-sac)
Byrnes Street	<p>No access to Victoria Road is currently available from Byrnes Street. Re-construction of the existing cul-de-sac will occur which requires access along Byrnes Street.</p> <p>Project activities:</p> <ul style="list-style-type: none"> ▪ Landscaping ▪ Shared User Path (Bay Run section) construction ▪ Relocation of street light poles ▪ Barrier construction ▪ Drainage installation ▪ Pavement construction (cul-de-sac)

The use of these local roads for the above listed activities are required from the period of Q1 2020 to Q3 2021. The use of these streets around the Iron Cove Link civil site will not be used by truck and dogs.



Figure 34 Iron Cove Local Road Overview

1.1.5.1. CoA E51 requirement – Byrnes Street

Access/egress along Byrnes Street, while open to the public, will be required to enable construction of the Byrnes Street cul-de-sac and retaining wall along the western boundary of Victoria Road. Intermittent usage would also occur where access from within the Iron Cove Link civil site is restricted due to the spatial constraints and construction sequencing. This includes when construction of the new westbound Victoria Road results in a level difference that prevents internal movements.

A traffic and pedestrian impact assessment has been included in Figure 34.

Table 37 Byrnes Street traffic and pedestrian impact assessment to address the requirements of CoA E51. Byrnes Street is shown in Figure 34.

Table 37 Byrnes Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> A swept path analysis is presented in Annexure C. This analysis demonstrates sufficient space within the street for a 12.5m heavy rigid vehicle. Byrnes Street is a two-way local road and has a carriageway width of approximately 6m. Byrnes Street has a cul-de-sac at the northern end of the street. The sign-posted speed limit is 10km/h on Byrnes Street. A 1.5m-wide pedestrian path is provided on the east side of Byrnes Street
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> Acoustic amenity is consistent with the adjacent works / the local environment during construction as the heavy vehicle will be travelling a slow speed (10km/hr).
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> The road is partially within the permanent works footprint of the Project. The road dilapidation survey will be undertaken for the remaining portion of the road, outside the footprint prior to the commencement of use.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.	<ul style="list-style-type: none"> No schools, aged care facilities or child-care facilities are present on Byrnes Street

1.1.5.2. CoA E51 requirement – Clubb Street

Clubb Street will be closed permanently as a result of the Project, therefore, there will be no public access to the portion of the street within the Project footprint, which is required by heavy vehicles.

Access/egress along Clubb Street (outside of the Project footprint), while open to the public, will be required to enable construction of the Clubb Street cul-de-sac and retaining wall along the western boundary of Victoria Road. Intermittent usage would also occur where access from within the Iron Cove Link civil site is restricted due to the spatial constraints and construction sequencing. This includes when construction of the new westbound Victoria Road results in a level difference that prevents internal movements.

A traffic and pedestrian impact assessment has been included in Table 38 to address the requirements of CoA E51. Clubb Street is shown in Figure 34.

Table 38 Clubb Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment, and should include a swept path analysis if required.	<ul style="list-style-type: none"> A swept path analysis is presented in Annexure C. This analysis demonstrates sufficient space within the street for a 12.5m heavy rigid vehicle. Clubb Street is a two-way local road with an 8.5m – 12m wide carriageway. The sign-posted speed limit is 50km/h on Clubb Street. The width of the existing footpath on either side varies between 1m and 2m.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> Acoustic amenity is consistent with the local noise environment adjacent to a major arterial road.

Condition of Approval E51 requirement	Mitigation strategies / approach
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> The road is partially within the permanent works footprint of the Project. The road dilapidation survey will be undertaken for the remaining portion of the road, outside the footprint prior to the commencement of use.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.	<ul style="list-style-type: none"> No schools, aged care facilities or child-care facilities are present on Clubb Street

1.1.5.3. CoA E51 requirement – Callan Street

Callan Street will be intermittently and temporarily closed to enable construction of permanent works across Callan Street. Toelle Street will be kept open whenever a temporary closure at Callan Street is in place. When Callan Street is closed to public access heavy vehicles can enter the site from Victoria Road.

Access gates are proposed to enable heavy vehicles to cross Callan Street whilst the road remains open to the public.

Further to this, access/egress along Callan Street (outside of the Project footprint), while open to the public, will be required to enable construction of retaining wall along the western boundary of Victoria Road, road works and to construct a new intersection at the corner of Callan Street and Victoria Road. Intermittent usage would also occur where access from within the Iron Cove Link civil site is restricted due to the spatial constraints and construction sequencing. This includes when construction of the new westbound Victoria Road results in a level difference that prevents internal movements.

A traffic and pedestrian impact assessment has been included in Table 39 to address the requirements of CoA E51. Callan Street is shown in Figure 34.

Table 39 Callan Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.	<ul style="list-style-type: none"> A swept path analysis is presented in Annexure C. This analysis demonstrates sufficient space within the street for a 12.5m heavy rigid vehicle. A swept path analysis is not required for heavy vehicles crossing Callan Street as the heavy vehicle path is an 8m straight line. The vehicle does not sweep / turn to use the route. Callan Street is a two-way local road adjoining with Victoria Road and has a carriageway width of 5m. The sign-posted speed limit is 10km/h on Callan Street. The existing footpaths on either side of the road are 0.5m wide.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	<ul style="list-style-type: none"> An authorised traffic controller will direct heavy vehicles across the road and assist pedestrians. Public traffic and pedestrians have right of way, traffic controllers to guide construction vehicles across during gaps in the traffic. Whilst the gate is in active use the eastern footpath of Callan St between Victoria Rd and the site gate (10m in length) will be diverted to the western footpath of Callan St. This diversion marshals' pedestrians to one site access crossing point reducing potential interaction

Condition of Approval E51 requirement	Mitigation strategies / approach
	<p>between vehicles and people and simplifying traffic control.</p> <ul style="list-style-type: none"> ▪ . Acoustic amenity is consistent with the adjacent works / the local environment during construction as the heavy vehicle crossing of Callan St is limited to 8m, that is the duration is very short. ▪ Access is designed to comply with; <ul style="list-style-type: none"> › Roads and Maritime Traffic Control at Worksites Manual (2018) › Roads and Maritime Delineation Manual (March 2008) › Roads and Maritime Road Safety Audit Technical Direction TD2003/RS03, Version 2 (August 2005) › Roads and Maritime Road Occupancy Manual (2015) › Roads and Maritime Road Design Guide (2015) › Roads and Maritime NSW Bicycle Guidelines › AUSTRROADS Guide to Traffic Management - Parts 1-13 › AUSTRROADS Guide to Road Design - Parts 1-8 › AUSTRROADS Guide Road Safety - Parts 1-9 › Australian Standard 1742.3-2009 Traffic control devices for works on roads › Australian Standard 1742 Parts 1 to 14, Manual of uniform traffic control devices (as required) › Australia Road Rules.
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> ▪ The road is partially within the permanent works footprint of the Project. Pavement, curb and gutter works are part of the Project scope. Therefore, no road dilapidation survey will be undertaken for this portion of the road. ▪ The road dilapidation survey will be undertaken for the remaining portion of the road, outside the Project footprint prior to the commencement of use.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation.	<ul style="list-style-type: none"> ▪ No schools, aged care facilities or childcare facilities are present on Callan Street

1.1.5.4. CoA E51 requirement – Toelle Street

Toelle Street will be intermittently and temporarily closed to enable construction of permanent works across Toelle Street. Callan Street will be kept open whenever a temporary closure at Toelle Street is in place.

Access gates are proposed to enable heavy vehicles to cross Toelle Street within the Iron Cove Link civil site whilst the road remains open to the public.

Access along Toelle Street outside the Project footprint, while open to the public, will be required to enable construction of the western boundary of Victoria Road, road works and to construct a new intersection at the corner of Toelle Street and Victoria Road. Intermittent usage would occur where access from within the Iron Cove link civil site is restricted due to the spatial constraints and construction sequencing. This includes when construction of the new westbound Victoria Road results in a level difference that prevents internal movements.

A traffic and pedestrian impact assessment has been included in Table 40 to address the requirements of CoA E51. Toelle Street is shown in Figure 34.

Table 40 Toelle Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
<p>All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment, and should include a swept path analysis if required.</p>	<ul style="list-style-type: none"> ▪ A swept path analysis is not required for the local road usage within the Iron Cove Link civil site as the heavy vehicle path is an 11m straight line. The vehicle does not sweep / turn to use the route. ▪ A swept path analysis is presented in Annexure C for use of Callan Street, outside of the Project footprint. This analysis demonstrates sufficient space within the street for a 12.5m heavy rigid vehicle. ▪ Toelle Street is a two-way local road adjoining with Victoria Road and has a carriageway width of 7m. ▪ The sign-posted speed limit is 50km/h on Toelle Street. ▪ The existing footpaths on either side of the road are 2m wide.
<p>(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;</p>	<ul style="list-style-type: none"> ▪ An authorised traffic controller will direct heavy vehicles across the road within the Iron Cove link civil site and assist pedestrians. Public traffic and pedestrians have right of way, traffic controllers to guide construction vehicles across during gaps in the traffic. ▪ Whilst the gate is in active use the eastern footpath of Toelle St between Victoria Rd and the site gate (10m in length) will be diverted to the western footpath of Toelle St. This diversion marshals' pedestrians to one site access crossing point reducing potential interaction between vehicles and people and simplifying traffic control. ▪ Acoustic amenity is consistent with the local noise environment adjacent to a major arterial road. ▪ Access is designed to comply with; <ul style="list-style-type: none"> › Roads and Maritime Traffic Control at Worksites Manual (2018) › Roads and Maritime Delineation Manual (March 2008) › Roads and Maritime Road Safety Audit Technical Direction TD2003/RS03, Version 2 (August 2005) › Roads and Maritime Road Occupancy Manual (2015) › Roads and Maritime Road Design Guide (2015) › Roads and Maritime NSW Bicycle Guidelines › AUSTRROADS Guide to Traffic Management - Parts 1-13 › AUSTRROADS Guide to Road Design - Parts 1-8 › AUSTRROADS Guide Road Safety - Parts 1-9 › Australian Standard 1742.3-2009 Traffic control devices for works on roads › Australian Standard 1742 Parts 1 to 14, Manual of uniform traffic control devices (as required) › Australia Road Rules.
<p>(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and</p>	<ul style="list-style-type: none"> ▪ The road is partially within the permanent works footprint of the Project. ▪ The road dilapidation survey will be undertaken for the remaining portion of the road, outside the Project footprint prior to the commencement of use.
<p>(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation.</p>	<ul style="list-style-type: none"> ▪ No schools, aged care facilities or childcare facilities are present on Toelle Street

1.1.5.5. CoA E51 requirement – Manning Street

Access/egress along Manning Street (as shown in Figure 34), while open to the public, will be required be required to enable construction of the western boundary of Victoria Road including the Clubb Street and Byrnes Street cul-de-sacs, intersections with Victoria Road at Callan Street and Toelle Street, roadworks and construction of retaining walls along the re-aligned westbound Victoria Road. Intermittent usage would also occur where access from within the Iron Cove link civil site is restricted due to the spatial constraints and construction sequencing. This includes when construction of the new westbound Victoria Road results in a level difference that prevents internal movements.

A traffic and pedestrian impact assessment has been included in Table 41 to address the requirements of CoA E51.

Table 41 Manning Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment, and should include a swept path analysis if required.	<ul style="list-style-type: none"> ▪ A swept path analysis is presented in Annexure C. This analysis demonstrates sufficient space within the street for 12.5m heavy rigid vehicle. ▪ Manning Street is a two-lane two-way local street between Byrnes Street and Callan Street, albeit it becomes a one-way road in the eastbound direction between Callan Street and Darling Street. ▪ The carriageway width of Manning Street is 9m to 10m in the two-way section between Byrnes Street and Callan Street, and reduces to 3.5m to 4m in the one-way section between Callan Street and Darling Street. ▪ The sign-posted speed limit is 50km/hr on Manning Street. ▪ The width of the intermittent footpath varies between 1m and 2m.
(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;	Acoustic amenity is consistent with the local noise environment adjacent to a major arterial road.
(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and	<ul style="list-style-type: none"> ▪ The road dilapidation survey will be undertaken prior to the commencement of use.
(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.	<ul style="list-style-type: none"> ▪ No schools, aged care facilities or child-care facilities are present on Manning Street. ▪ King George Park and sports ground is located adjacent to Manning Street.

1.1.5.6. CoA E51 requirement – McCleer Street / Springside Street

Access along McCleer Street / Springside Street (as shown in Figure 34), while open to the public, will be required be enable access to the Iron Cove link civil site, east of Callan Street. It would enable construction of the western boundary of Victoria Road. These local roads are required particularly when Callan Street is closed.

A traffic and pedestrian impact assessment has been included in Table 42 to address the requirements of CoA E51.

Table 42 McCleer Street / Springside Street traffic and pedestrian impact assessment

Condition of Approval E51 requirement	Mitigation strategies / approach
<p>All requests to the Secretary for local road usage need to include a traffic and pedestrian impact assessment and should include a swept path analysis if required.</p>	<ul style="list-style-type: none"> ▪ A swept path analysis is presented is presented in Annexure C. This analysis demonstrates sufficient space within the street for a 6.4m small rigid vehicle. ▪ Springside Street: <ul style="list-style-type: none"> › Is a one-way local road between Victoria Road and McCleer Street, and two way local road between McCleer Street and Manning Street with a carriageway width of 5m. › Has a sign-posted speed limit of 10km/hr › The width of the existing footpath varies between 1 and 2m. ▪ McCleer Street: <ul style="list-style-type: none"> › Is a shared one-way local road between Callan Street and Springside Street has a carriageway width of 4m. › Has a sign-posted speed limit of 10km/hr › The width of the existing footpath is around 1m. › Is a marked bicycle route
<p>(a) demonstrate that the local road usage will not compromise the safety of the public and have minimal amenity impacts;</p>	<ul style="list-style-type: none"> ▪ Acoustic amenity is consistent with the local noise environment adjacent to a major arterial road.
<p>(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and</p>	<ul style="list-style-type: none"> ▪ The road dilapidation survey will be undertaken prior to the commencement of use.
<p>(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child-care facilities during peak times for operation.</p>	<ul style="list-style-type: none"> ▪ No schools, aged care facilities or child-care facilities are present on McCleer Street / Springside Street.