

Construction Traffic and Access Sub Plan

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Document Control

The Project Director is responsible for ensuring that this Plan is reviewed and approved. The Safety Director is responsible for updating this Plan to reflect changes to Health and Safety legal and other requirements, as required.

Amendments

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

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Part A: Overview

1. Structure of this Plan

This Construction Traffic and Access Plan (CTAP) forms part of the Project Management System (PMS). It is part of a suite of Plans that together outline how the Project will be managed to ensure an integrated approach to meeting contract requirements.

This CTAP, also known as the Construction Traffic and Access Sub Plan and the Traffic and Transport Management Plan is a sub-Plan of the Construction Environmental Management Plan (CEMP) dealing with the safe and effective management of traffic during the design and construction stage of the Works.

In addition to the Project Management Plan, other Project Plans that interface with the Traffic and Safety Management Plan include:

- Construction Environmental Management Plan
- Construction Plan
- Quality Plan
- Completion Plan

This Plan has the following structure:

Part A: Overview	<p>This section clearly defines:</p> <ul style="list-style-type: none">• Purpose and Scope of the CTAP• Traffic Management and Safety Contract Requirements• Environmental Management Measures for Traffic and Transport• Objectives and Targets• Structure of the Health and Safety Management System
Part B: Implementation	<p>This section outlines in detail the key aspects for Traffic Management on the Project including:</p> <ul style="list-style-type: none">• Traffic Management Strategy• Impacts of Construction• Traffic and Construction Staging• Traffic and Transport Management• Consultation and Communication
Part C: Appendices	<p>This section provides copies of the following Appendices:</p> <ul style="list-style-type: none">• Applicable Specifications, Standards and Guides• Example Traffic Safety Risk Register• Construction Site Accesses and Layouts• Traffic Control Plans (TCP's)• Typical Vehicle Movement Plan• Consultation Register• High Level Construction Program• Likely Construction Vehicle Routes• Traffic Staging – Western Surface Works (M5) and Local Roads• Traffic Transfer / Switching Procedure

2. Project Overview

2.1. Introduction

CPB Contractors Dragados Samsung Joint Venture (CDS-JV) has been contracted by the Sydney Motorway Corporation (SMC) to Design and Construct the Project: M5-Beverly Hills to St Peters or the “New M5” together with the Local Road Upgrade Works.

The Construction Traffic and Access Plan (CTAP) describes how CDS-JV will safely manage vehicular, cyclist and pedestrian traffic during the design and construction stages of the Project.

This Plan is established in accordance with CPB Contractors ‘The Way We Operate’ framework and incorporates key elements from Dragados and Samsung Management Systems.

It integrates CDS-JV Project delivery requirements and client construction requirements

The Safety Director with advice and input from the Construction Manager Project Wide and senior Construction staff, are responsible for the Plan.

Compounds shown in this plan that are yet to be acquired or approved for use (for example Metro-mix and Bourke Road parking compound) are subject to consistency review and other approval requirements under the planning approval conditions prior to use.

2.2. Legislation Policy and Strategy

Legislation and regulations of relevance to this CTAP are:

- Roads Act 1993 – Section 138 requires that a person obtain the consent of the appropriate Roads Authority for the erection of a structure, or the carrying out of a work in, on or over a public road, or the digging up or disturbance of the surface of a public road. If the applicant is a Public Authority, the Roads Authority must consult with the applicant before deciding whether or not to grant consent or concurrence.
- RMS has the power, under the Roads Act 1993 – Division 3 - Section 62 to take Roads Authority powers from relevant local councils. This power may be exercised by RMS, for the duration of the Works.

As per Section 7.15.2 of the SWTC, CDS-JV would, comply with a traffic direction or instruction given by the New South Wales Police Service, a relevant Authority or SMC in respect of any traffic and transport management.

2.3. Management Strategy

CDS-JV will implement a clear vision and communicate the values and behaviours expected of all who undertake the Works.

The Traffic and Transport Management principles that apply to the Works will ensure:

- The provision of a safe environment for road users, pedestrians, cyclists and workers
- Any impact on road users and asset operation and maintenance is kept to a minimum
- Access is maintained for the local community, transport operators and commercial developments
- Road users, local businesses, Local Councils, Emergency Services, stakeholders and local communities are informed in relation to changed traffic conditions, and
- There is sufficient advance warning of changes to normal traffic conditions.

This CTAMP will be further developed in consultation with SMC, TMC, RMS, Local Councils, Motorway Operator and the Department of Planning. In respect of the obligations under the Project Deed, CDS-JV acts in accordance with the Deed, including the SWTC and the Environmental Documents. Please refer to Section 9 and Appendix F where further details of the consultation undertaken to date are provided.

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This plan will be regularly monitored, reviewed, developed and updated as required by the CDS-JV Traffic Manager in response to incidents or other factors and changes to the construction program or staging. Amendments shall be made in consultation with key stakeholders and the Independent Certifier and recorded in the minutes of the traffic coordination group (TCG). The frequency of updates to this plan shall be determined by the Traffic Coordination Group membership

Triggers for updating this plan include:

- Addressing changes in the design and construction process
- Design and Construction processes which the existing Construction Traffic and Access Plan does not address; and
- To avoid recurrence of any compromise to the safety of road users and the public

2.4. Compliance Matrix

The following compliance matrix identifies specific contractual requirements and how they are satisfied within this Plan or the wider Project Management System (PMS). Subsequent tables are provided for the Minister’s Conditions of Approval and the Revised Environmental Management Measures (REMMs) included in the EIS.

Minister’s Conditions of Approval that specifically address Traffic and Access Management are identified in Table 2.. Revised Environmental Management Measures are addressed in Table 3.

Table 1: Construction Traffic and Access Plan Compliance Matrix

			Section Reference
Requirements for Project Plans and Strategies			
(d)		The Construction Traffic and Access Plan must be in outline format, except that it must provide full detail to address the requirements of subsection 11(d)(i) in Appendix C.1 , including a diagrammatic representation identifying how major traffic diversions will be undertaken and staged over the duration of the Contractor’s Activities.	Section 3 Appendix G and I
SWTC Main Body			
7.15.1		General	Section 8.2, 8.3
7.15.2		Compliance with traffic instructions during construction	Section 8
7.15.3		Bicycle provisions	6.11
7.15.4		Traffic Controllers	Section 4, 4.8
7.16		Traffic Accidents on Worksites during Construction	Section 9
Appendix C.1 Project Plan Requirements, Section 11 Construction Traffic and Access Plan			
(a)		The Construction Traffic and Access Plan must identify how the Project Company will comply with the traffic management and traffic safety requirements of the Deed to the satisfaction of RMS and all relevant Authorities.	This Plan
(b)		The Plan must provide for constant monitoring and review of the Project Company’s Work and O&M Work to ensure continued compliance with the Construction Traffic and Access Plan.	2.9
(c)		The Construction Traffic and Access Plan must comply with the requirements of the Deed and the Scope of Work and Technical Criteria and address the following key issues, including:	Note
	(i)	the requirements of section 3.18 of the Scope of Work and Technical Criteria	2.7 and this Plan

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			Section Reference
	(ii)	the requirements of Appendix C.5 of the Scope of Work and Technical Criteria for traffic and transport management during the Project Company's Work	Section 8 and this Plan
	(iii)	safety and amenity of road users and the public	This Plan
	(iv)	temporary lane or road closures, detours and other disruptions to traffic flows and access for pedestrians, pedal cyclists and disabled persons including identification of additional traffic generated on roads in the Local Areas as a consequence of these disruptions	Section 6 Appendix C
	(v)	provisions for monitoring Local Areas affected by the Project Company's Work	Section 5.8 and 5.9
	(vi)	site security, site access and signage	Appendix C
	(vii)	Project identification including signs to acknowledge Government initiatives	Section 8.9
	(viii)	traffic (or road user) delay management	Section 3.2
	(ix)	numerical identification of structures	Section 8.18
	(x)	information signage, distance information and advance warning signs	Section 5.6
	(xi)	speed limit signage	Section 5.3, 5.4, 5.5
	(xii)	traffic transfer arrangements and procedures	Appendix J
	(xiii)	provisions for special events	Section 8.16
	(xiv)	provisions for maintenance	Section 6.17 & 6.19
	(xv)	frequency of inspections, and	Section 8.4
	(xvi)	emergency and incident response Plans.	Section 8.13, 8.14, 8.15
(d)		The Traffic Safety Management Plan must contain:	
	(i)	details of traffic staging as part of the Temporary Works, including proposed traffic detours and diversions (with associated schedules showing the expected timeframes for traffic switches etc.)	Appendix G and I
	(ii)	details of the traffic management responsibilities of all relevant construction staff in regard to all aspects of the Project Company's Work, and	Section 2.7
	(iii)	a summary of the traffic management responsibilities of all relevant operation and maintenance staff in respect of the O&M Work.	Not this Plan. To be included in O&M Plans
(e)		The Construction Traffic and Access Plan must contain a draft of all traffic control Plans to be submitted and/or approved by the TMC for the Project Company's Work and O&M Work.	Section 5.8 Appendix D
(f)		The Construction Traffic and Access Plan must include the Traffic and Transport Management Plan referred to in Appendix C.5.	Sections 3 to 6
(g)		Controlled copies of the Construction Traffic and Access Plan must be issued to RMS and the relevant construction, operating and maintenance staff of the Project Company.	Section 2.6
(h)		The Construction Traffic and Access Plan must be updated by the Project Company's in response to any Incidents or traffic disruptions arising from the Project Company's Work and O&M Work.	Section 2.3
(i)		The Construction Traffic and Access Plan is Appendix E.14 to the Scope of Works and Technical Criteria	Noted
(j)		A revised Construction Traffic and Access Plan must:	NA

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			Section Reference
	(i)	be submitted to RMS within 60 Business Days after the date of the Deed, and	Section 2.6
	(ii)	contain, as a minimum, the contents specified for Construction Traffic and Access Plans in the Scope of Works and Technical Criteria	This Plan
(k)		The Construction Traffic and Access Plan must be regularly reviewed, developed and updated:	
	(i)	to address changes in the design and construction process	Section 2.3
	(ii)	for design and construction processes which the existing Construction Traffic and Access Plan does not address, and	Section 2.3
	(iii)	to avoid recurrence of any compromise to the safety of road users and the public.	Section 2.3
(l)		The Project Company must not commence any work upon the Project Site, Temporary Areas, or on or adjacent to a Local Area until the revised Construction Traffic and Access Plan has been submitted to RMS and RMS has not given a notice under section 2 a) ii) of Schedule 35 to the Deed.	Section 2.8
(m)		The Project Company must provide a Road Opening Plan as a sub-Plan to the Construction Traffic and Access Plan. The Road Opening Plan must include but is not limited to the following:	Section 2.9
	(i)	how the Project Company will comply with the traffic management and safety requirements of the Deed to the satisfaction of RMS and all relevant authorities when the New M5 Main Works is opened for public access	Mwy Operator Plan
	(ii)	a summary of the traffic management responsibilities of all relevant operation and maintenance staff at the time of opening, and	Mwy Operator Plan
	(iii)	draft traffic control Plans to be implemented at opening to be submitted to the TMC.	Mwy Operator Plan
Appendix C.5 Traffic and Transport management Requirements Project Plan Requirements during the Project Company's Work			
1.1		RMS's Management and Control Responsibilities	Section 8.2, 4
1.2		The Project Company's Responsibilities	Section 8.2, 4
1.3		Management of the Road Network and Traffic Systems by the Project Company	Section 8.2, 8
2.1		Overall Requirements	Section 8.3
2.2		Specific Requirements	Section 8.3
2.3		Traffic and Transport Management Plan for the Project Company's Work	Section 8.3 and 8
2.4		Traffic and Transport Communications	Section 8.3, 9
2.5		Traffic and Transport Models	Section 8.3
2.6		Traffic Operations and Incident Management	Section 8.3, 8.13-8.15
2.7		Driver Information, Temporary Works and Traffic Infrastructure	Section 8.3
2.8		Road Occupancy Constraints and Licences	Section 8.3, 8.4
2.9		Facilities for Road Based Public Transport	Section 8.3, 6.9
2.10		Cyclist and Pedestrian Facilities	Section 8.3, 6.10, 6.11
2.11		Project Company's Traffic and Transport Personnel	Section 8.3, 4
2.12		Reporting on Traffic and Transport Management	Section 8.3, 9

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			Section Reference
Appendix C.4 Road Occupancy and Site Access Requirements			
1.		Road Occupancy During the Company's Work	Section 8.5

Table 2: Minister's Conditions of Approval that address management of construction traffic and access.

Reference	Requirement	Where addressed
B45	<p>Where bus stops are required to be temporarily closed during construction, such closure must not occur until:</p> <p>(a) for bus stops identified for relocation in the documents referred to in condition A2(b), relocated bus stops are functioning, have similar capacity and are relocated within a 400 metre walking distance of the existing bus stop (where feasible and reasonable); or (b) for bus stops identified for temporary removal in the documents referred to in condition A2 (b), bus stops are identified that are within a 400 metre walking distance of the removed bus stop (where feasible and reasonable), have comparable capacity, and are on the same route and in the same direction of the closed bus stop.</p> <p>Where temporary closures of bus stops are required (including relocation or removal), adequate wayfinding signage shall be provided directing commuters to adjacent or relocated bus stops. Any closures or alterations to bus stops during construction are to be undertaken in consultation with Transport for NSW.</p>	Section 6.9
B46	All bus stops temporarily removed or relocated during construction of the SSI must be reinstated in a manner that provides equal or improved capacity and accessibility in consultation with Transport for NSW and relevant councils prior to the commencement of operation of the SSI.	Section 6.9
B47	To improve pedestrian and cycle accessibility, road lane widths, associated medians and intersection geometry are to be minimised, where feasible and reasonable, without compromising safety.	Section 6.10, Section 6.11
B48	In relation to new or modified local road, parking, pedestrian and cycle infrastructure, the SSI (including ancillary facilities) must be designed to meet relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Engineering Practice.	Section 6.10, 6.11
B49	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 any new or modified local road, parking, pedestrian and cycle infrastructure provided as part of the SSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Ausroads 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.	Section 8.11
D46	Unless otherwise approved by the Secretary, heavy vehicle movements associated with the construction of the SSI are not permitted to use Wirega Avenue and Garema Circuit at Kingsgrove, or any other local road not identified for use in the documents referred to in conditions A2(b) and A2(c), unless approved by the Secretary. When seeking the Secretary's approval for use of such local roads, justification must be provided as to why use of the local road(s) is the only feasible and reasonable route along with details on how impacts on surrounding sensitive receivers will be managed.	Section 6.15, Appendix H
D47	Construction vehicles (including staff vehicles) associated with the SSI must be managed so that:	Section 6.15, 6.16, 6.19, 6.22
	(a) parking or queuing on public roads is minimised;	
	(b) idling and queuing in local residential streets is minimised, where practicable;	

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Reference	Requirement	Where addressed
	(c) heavy vehicles adhere to the nominated haulage routes identified in the Construction Traffic and Access Management Plan required under condition D68(a); and (d) Access and egress from construction compounds is undertaken in a safe and lawful manner, with particular regard being given to compounds located in the vicinity of schools and the potential implementation of traffic management or signalisation, in consultation with the relevant council.	
D48	Functional and safe pedestrian and cyclist access through and around worksites must be maintained during construction. This includes the consideration of 'safer by design' principles including the provision of appropriate sight lines and lighting. In circumstances where pedestrian and cyclist access is restricted due to construction activities, a satisfactory alternate route must be provided and signposted, including provision of footpaths where pedestrian access is reliant on grassed verges.	Section 6.10, 6.11
D49	Access to all properties must be maintained during construction, where feasible and reasonable, unless otherwise agreed by the relevant property owner or occupier. Any access physically affected by the SSI must be reinstated to at least an equivalent standard, unless agreed with by the property owner.	Section 6.3, 6.17
D50	The Proponent must prepare and implement a Construction Parking and Access Strategy to further identify and effectively mitigate impacts resulting from on and off-street parking changes during construction of the SSI.	Separate Plan
D68	As part of the CEMP for the SSI, the Proponent must prepare and implement: (a) a Construction Traffic and Access Management Plan to ensure traffic and access controls are implemented to avoid or minimise impacts on traffic, pedestrian and cyclist access, and the amenity of the surrounding environment. The Construction Traffic and Access Management Plan must be developed in consultation with the relevant council(s), emergency services, SOPA, road user groups, and pedestrian and bicycle user groups, and include, but not be limited to:	This Plan and section 9 and Appendix F
	i. identification of construction traffic routes including any known road closures and consideration of alternate routes and construction traffic volumes (including heavy vehicle/spoil haulage) on these routes,	Appendix H, Section 6.15
	ii. details of vehicle movements for construction sites and ancillary facilities, dedicated vehicle turning areas, and ingress and egress points,	Section 6.15
	iii. demonstration that sufficient on-site parking is provided at construction compounds to accommodate all construction staff at any one time,	Section 6
	iv. discussion of construction impacts that could result in disruption of traffic, public transport, pedestrian and cyclist access, access to public land, property access, including details of oversize load movements, the nature and duration of those impacts,	Section 6
	v. details of management measures to maintain or provide alternative safe and accessible routes for pedestrians throughout the duration of construction,	Section 6.10
	vi. details of measures to maintain connectivity for cyclists, with particular emphasis on providing adequate access between key existing cycle routes for commuter cyclists,	Section 6.11
	vii. details of measures to manage traffic movements, parking, loading and unloading at ancillary facilities during out-of-hours work,	Section 6.16
	viii. details of measures to be used to communicate proposed future traffic changes to affected road users, pedestrians and cyclists, consistent with the Community Communication Strategy	Section 9
	ix. details of methods to be used to communicate proposed future traffic changes to affected road users, pedestrians and cyclists,	Section 8.13, 8.15

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Reference	Requirement	Where addressed
	consistent with the community Communication Strategy required under condition C1, and	
	x. an adaptive response plan which sets out a process for response to any traffic, construction or other incident , and	Section 2.3
	xi. mechanisms for the monitoring, review and amendment of the Construction Traffic and Access Management Plan.	Section 2.3, 2.8

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Table 3: Revised Environmental Management Measures for Traffic and Transport (from EIS)

Impact	No.	Environmental Management Measure	Ref in Plan
General	TT01	A Construction Management and Safety Plan would be prepared as part of the CEMP. The CCTAP would include the guidelines, general requirements and principles of traffic management to be implemented during construction, including:	This Plan
		Signage requirements (e.g. temporary speed restrictions, changes to the road environment, traffic management controls)	Section 5.3, 5.7
		Lane possession and approval process during periods of online construction (e.g. line marking and temporary barriers)	Section 5.2
		Traffic control devices such as traffic signals	Section 5.6
		A local and regional communications strategy, including methods to provide advanced notice of any major or prolonged impacts (e.g. leaflets and local media), and real time information regarding current impacts (e.g. variable message signs, radio traffic news)	Section 6
		Details of both the general approach to be used for access and egress to construction compounds and the specific controls required at specific locations	Section 6.15 Appendix C
		Any specific provisions required to manage potential impacts to sensitive users, such as schools, child care centres and health facilities	Section 9.13
		The CCTAP would 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.	Section 2.4
Impacts to road network performance (delays) and safety	TT02	Construction methods and staging would be designed to minimise road closures, subject to other Project constraints, and ensure that disruptions to existing traffic are minimised as much as feasible and reasonable.	Section 3.2
	TT03	Construction works would be carried out offline, where possible. Where offline construction is not practical, and for tie-ins between online and offline sections of the Project, construction sequencing and any temporary works identified would aim to minimise user delay while providing sufficient flexibility for the selected contractor to safely and efficiently construct the Project	Section 3.2
	TT04	Works that would significantly reduce the performance of the road network would be scheduled for periods of typically lower traffic volumes where feasible and reasonable.	Section 5.2
	TT05	Work areas would be isolated from general traffic using temporary safety barriers where possible.	Section 4 and Appendix I drawings
	TT06	Temporary closed-circuit television (CCTV) and variable message signs (VMS) would be provided at the outset of construction to link	Section 8.14

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Impact	No.	Environmental Management Measure	Ref in Plan
		with the existing Transport Management Centre (TMC) network to facilitate monitoring and management of traffic impacts.	
	TT07	Traffic volume data would be analysed to identify capacity requirements, assess the potential impact of lane occupancies on traffic flows, plan lane occupancies to minimise the work area, and identify the best time to minimise inconvenience to road users. Restrictions and obstructions would be limited, road capacities maximised and peak traffic periods avoided where possible.	Section 5.1
	TT08	Impacts on pedestrian paths and cycle lanes would be minimised, and alternatives provided during construction where practical and safe to do so.	Section 6.10, 6.11
	TT09	Impacts to bus stops would be identified and alternative locations and access would be provided. This would be undertaken in consultation with Transport for NSW and the relevant bus service provider.	Section 6.9
	TT10	Local road closures would be managed and adequate property access maintained. This would be undertaken in consultation with Roads and Maritime, local councils and property owners likely to be impacted.	Section 6.3
	TT11	A spoil management Plan would be prepared with subsequent monitoring of heavy vehicle and haulage routes to ensure compliance and minimise impact on local roads off the arterial road network.	Separate Plan Section 6.7, 6.20 Appendix H
	TT12	A road dilapidation report (s) would be prepared 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 6.4
	TT13	Road occupancy licences would be obtained where required	Section 5.2
Impacts to emergency services	TT14	The CCTAP would be developed in consultation with local emergency services and procedures would be implemented to maintain priority access and a safe environment for emergency vehicles to travel through construction areas. The CCTAP would include measures to keep emergency services informed of the staging and progress of construction works.	Section 9 and Appendix F. Note that emergency services have not provided feedback during the development phase of the plan, however will be further consulted during the development of the detailed Traffic management Plans for various stages of construction

2.5. Strategic Objectives

The overarching strategy of the Construction Traffic and Access Plan is to:

- Ensure all road users are considered during all stages of the project
- Provide safe routes for pedestrians and cyclists during construction
- Design the permanent works so that interaction with existing road users is minimised thereby creating a safer work and road user environment
- Plan and stage works to minimise the need for road occupancy, where possible
- Minimise the number of changes to the road users' travel paths and, where changes are required, implement a high standard of traffic controls which effectively warn, inform and guide. This would minimise confusion by providing clear and concise traffic management schemes
- Comprehensively communicate changes to roads or paths to emergency services, public transport operators, other road user groups and any other affected stakeholders.
- Propose a detailed travel management strategy for construction staff at the various worksites, in consultation with local councils and stakeholders associated with any facilities adjacent to the project site. This would include the promotion of public transport and car-pooling to reduce worksite-related vehicle movements, and also investigate feasible options for the provision of parking strategies to reduce parking on local roads.

The Plan also aims to address the following objectives:

- Facilitate the ongoing regular review, development and updating of the Plan
- Obtaining relevant approvals, whether from Local Council, RMS or TMC
- Environmental concerns
- Specific community / stakeholder consultation process and community relations strategies for managing changed traffic conditions
- Potential road network impacts and the mitigation and management of them, e.g. development of a Construction Traffic and Access Plan (CTAP), this Plan.
- Auditing, inspections and monitoring the road network
- Management of incidents

2.6. Targets

The Road Safety and Traffic and Transport Management Targets follow SWTC Appendix C.5 and CDS-JV nominated targets of:

- No increase in roadwork related crashes during construction
- Minimise traffic impacts to maintain safe and efficient operation of the road network
- Minimise impact on the local community and environment

This Construction Traffic and Access Plan will:

- (i) be submitted to RMS within 60 Business Days after the date of the Deed; and
- (ii) contain, as a minimum, the contents specified for Construction Traffic and Access Plans in the Scope of Works and Technical Criteria.

2.6.1. Key Performance Indicators

The following key performance indicators (KPIs) will be measured on a monthly basis:

- To respond to community complaints on traffic-related issues within two hours of notification and reply in writing within seven days
- No breaches of ROL conditions

The following will be monitored for compliance by the CDS-JV Traffic Manager:

Construction Traffic and Access Sub Plan

- Monitoring and quantifying traffic delays and general conditions in relation to construction
- Maintaining and adjusting traffic control measures to assist prevailing traffic flows
- Monitoring of over-dimensional heavy vehicle movements (in relation to construction)

Wherever possible, the Traffic Manager will develop solutions to short and long-term traffic management arrangements to avoid interruptions to traffic flow and lane or shoulder closures.

Construction Traffic and Access Sub Plan



2.7. Project Management System

CPB Dragados Samsung Joint Venture (CDS-JV) is committed to providing its services in a manner that meets or exceeds the expectation of the Sydney Motorway Corporation (SMC) and all applicable regulatory authorities. To achieve this outcome, the Project team apply the CDS-JV Management System illustrated in Figure 1 to plan, implement and control processes.

The CDS-JV Management System is based on the requirements of the CPB Contractors Management System and has incorporated key elements from the Dragados and Samsung Management Systems.

It has been specifically tailored to ensure compliance with Contract requirements



Figure 1: CDS-JV Management System – ‘The Way We Operate’

‘The Way We Operate’ guides the way the overall Project will be managed to meet client and other stakeholder requirements.

In addition:

- Policies define the minimum mandatory requirements that CDS-JV expects all levels of the Project to comply with.
- This Plan outlines how the Project will be managed and is supported by a suite of functional Management Plans, Sub-Plans, Policies, Protocols, Strategies and Procedures that specify how to undertake and control specific activities. Where appropriate and approved by the CDS-JV Steering Committee, Project specific Procedures may be produced to reflect specific Project circumstances
- Tools are types of documents such as forms and checklists that are required to be completed as part of a Procedure. Knowledge documents are reference material to provide context or more information relating to a Procedure.
- Business Applications are the software tools used to manage our business and operations
- Policies, procedures and supporting tools and knowledge are located in a central, on-line repository which is accessible by all Project personnel.

2.8. Quality Assurance and Review

The Construction Traffic and Access Plan shall be updated by the CDS Traffic Manager in response to any Incidents or traffic disruptions arising from its work. CDS will not commence any work upon the Project Site, Temporary Areas, or on or adjacent to a Local Area until this Construction Traffic and Access Plan has been submitted to RMS and RMS has not given a notice under section 2 a) ii) of Schedule 35 to the Deed.

2.9. Sub-Plans to this CTAP

2.9.1. Road Opening Plan

CDS and the Operations and Maintenance Contractor shall provide a Road Opening Plan as a sub-plan to the Construction Traffic and Access Plan. The draft plan shall be submitted to RMS and SMC at 6 months prior to the forecast opening date to allow time for the development, submission, review and approval of the plan.

Construction Traffic and Access Sub Plan

The Road Opening Plan will include but is not limited to the following:

- (i) How CDS will comply with the traffic management and safety requirements of the Deed to the satisfaction of RMS and all relevant authorities when the New M5 Main Works is opened for public access;
- (ii) A summary of the traffic management responsibilities of all relevant operation and maintenance staff at the time of opening; and
- (iii) Draft traffic control plans to be implemented at opening to be submitted to the TMC.

2.9.2. Incident Management and Response Plan

Prior to the start of construction, CDS will develop a detailed Incident Management and Response Plan (IMRP) in consultation with and to the satisfaction of the TMC. This IMRP will be reviewed by CDS regularly and as needed throughout the stages of construction.

2.9.3. Traffic Management Plans

In addition to this Construction Traffic and Access Plan, CDS will also develop a suite of individual Traffic Management Plans to address traffic and transport impacts due to construction activities at major construction compounds and also for staged construction work on existing road networks.

Construction Compound TMP's	Traffic Staging TMP's
Arncliffe tunneling compound	Early Works (Non-Substantial construction)
Bexley Road tunneling compound	Western Surface Works
St Peter's Interchange	Local Road Upgrades

Part B: Implementation

3. New M5 Main Works - Area

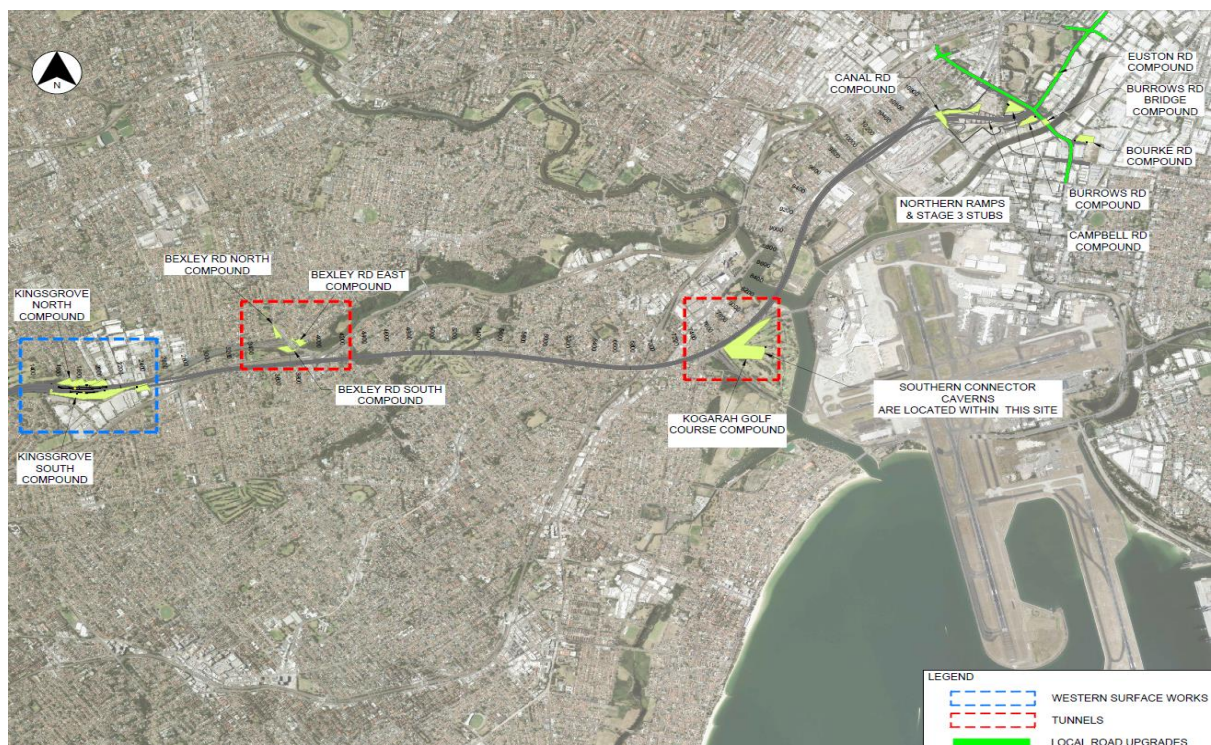
Traffic Management is a requirement of this CTAP across all construction areas, compounds and sites.

The Project is split into five main areas with construction sites outlined in Figure 2.

The main construction related areas (Figure 2) are:

1. Western Surface Works
2. Driven Tunnel
3. Southern Connector Caverns
4. Northern Ramps and Stage 3 Stubs
5. Local Road Upgrades

Figure 2: Overview of construction site locations



3.1. Western Surface Works

The Western Surface Works are located on the northern and southern side of the existing M5 Motorway. Both sites service the civil construction works and tunnel construction.

Kingsgrove North is located between Canterbury Golf Course and Garema Circuit, Kingsgrove. It is mirrored by Kingsgrove South on the southern side as shown in Appendix C.

Light and heavy vehicles will access the Western Surface Works from both sides of the M5, and Garema Circuit and Moorefield Rd for Kingsgrove North and Commercial Rd for Kingsgrove South.

The M5 between Bexley Road and King Georges Road will be 80km/h during the construction period to facilitate a safe working environment for workers and motorists and to meet the requirements of AS1742.3.

Staging of Western Surface Works is in Appendix I.

Speed zones are outlined in Section 6 of this CTAP.

Cyclists will be unable to use the M5, eastbound between King Georges Rd and Bexley Rd and westbound between Bexley Rd and King Georges Rd, due to the installation of road safety barriers to provide worksite protection. Cyclists would be detoured to an alternative route via existing roads and off road cycleways.

The shared path on the northern side of M5 between Garema Cct and Kindilan Underpass will be realigned to allow for site establishment. The connectivity of this path will be maintained.

The shared path on southern side of M5 between Karingal St and Kindilan Underpass will be closed and pedestrians and cyclists detoured to the cycleway on the northern side via Karingal St underpass to Kindilan Underpass (and vice versa).

The Kindilan Underpass will be partially closed to allow construction vehicles to access both the Kingsgrove North and Kingsgrove South sites. Shared path users will be separated from construction traffic by barriers and/or temporary hoarding.

3.2. Tunnel Sites and Southern Connector Caverns

3.2.1. Bexley Road North and Bexley Road South and Bexley Road East

The sites will be accessed from Bexley Rd and a local road. Homer St will be used to access the M5. Access to all of these sites will cross existing footpaths in the same way existing driveways to homes and businesses cross existing footpaths. No footpaths will be permanently closed and signage will be installed to advise of construction vehicle movements. The pedestrian overbridge, its stairs and approaches will be maintained.

The shared path that runs along the southern side of the M5 and intersects with Bexley Rd at the Bexley Rd South site will be realigned, but not closed, to allow for site establishment.

3.2.2. Kogarah (Golf Course) Site

The Kogarah site is located on the southern side of Marsh St, east of the M5. This site will support the road headers and be the main construction site for the tunnelling team, covering all aspects of tunnel construction from launch of road headers to spoil extraction. Access to and from this site will be from the signalised intersection at Flora St and Marsh St. This existing signalised intersection will be re-designed and newly constructed (with relevant approvals) to create the new site access.

3.3. Northern Ramps and Stage 3 Stubs

The Northern Ramps and Stage 3 stubs are located within the area bounded by Canal Rd, Burrows Rd, Campbell Rd and Princes Hwy, also known as St Peter's Interchange. The final design intersection of the Northern Ramps and Campbell Rd also falls within this zone, not the Local Roads zone.

Access to and from site will be from the signalised intersection at Canal Rd and the Container Terminal. This existing signalised intersection will be re-designed and newly constructed (with relevant approvals) to create the new site access.

One bus bay will be relocated from its existing location southbound on Canal Rd near the intersection with the Princes Highway to southbound on Canal Rd near the new signalised intersection.

The management logic and tenets for bus management are outlined in Section 3.5 of this CTAP.

3.4. Local Roads Upgrades

During local road upgrades all local roads will have road safety barriers installed to create safe working environments and this may create hazards for cyclists, in such cases, cyclists will be advised and/or detoured to an alternative route. Footpaths will remain open but not always in their existing alignment and again pedestrians will be advised and/or detoured to an alternative route.

Bus stops on Gardeners Rd, Sydney Park Rd, Euston St, Huntley Rd and Princes Hwy may be affected by upgrade works, but in all cases access will be maintained or the stops moved a very short distance away from the work area.

One existing bus stop on Bourke Rd, north of Gardeners Rd is to be relocated over 50m, north, along Bourke Rd during works however it will not be closed.

Driveway access, from Bourke Rd, to the Bunnings Warehouse car park will be relocated, not closed, as part of the Bourke Rd upgrade in cooperation with Bunnings Warehouse representatives.

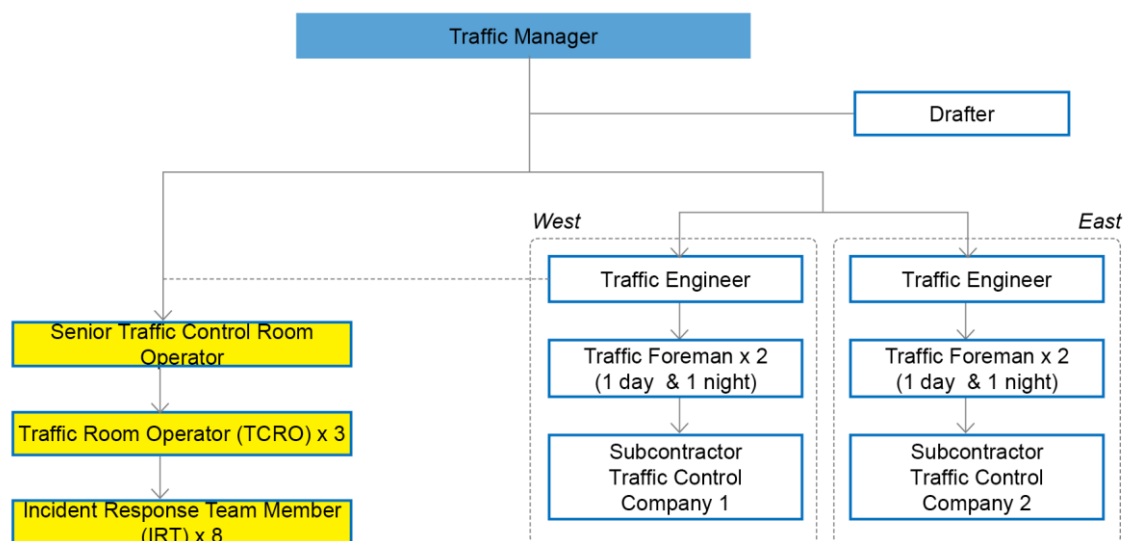
Parking on local roads will be affected as roads are being widened. Euston Rd parking will be affected, so, a temporary car park will be constructed on the former concrete batch plant, for use by those affected by the Euston Road upgrade. Parking, on all local roads, will be maintained wherever possible.

A draft high level block program is located in Appendix G. It would be completed as part of the environmental approvals.

4. Organisation and Responsibilities

Traffic management (includes pedestrian and cyclists) would be designed, installed and managed by the design and construction teams with technical advice and incident management provided by the Traffic Team, under the leadership of the Traffic Manager throughout the entire process. The Traffic Team positions and their responsibilities are outlined below. Figure 3 details the Traffic Team Structure.

Figure 3: Traffic Team Structure



4.1. Traffic Manager

CDS-JV will engage a full time Traffic Manager ('Traffic Representative' is used in some documents. Traffic Representative and Traffic Manager are the same role). The responsibilities of the Traffic Manager are listed below.

- Minimum of 10 years either, in construction managing Projects requiring extensive short and long term traffic management with major road network effects
- Manage the planning, development, implementation, revisions, and approvals with the relevant authorities and stakeholders of the Construction Traffic and Access Plan (CTAP), Traffic Management Plans (TMPs) and Traffic Control Plans (TCPs)
- Advise Construction Engineers to ensure traffic management measures are planned in accordance with the SWTC including relevant Safety Regulations and Standards
- Advise Construction personnel to ensure traffic management measures are planned in accordance with requirements of relevant stakeholders
- Liaise, generate and maintain a productive relationship with the RMS, TMC, Local Councils, NSW Police, emergency service agencies and other stakeholders on traffic and incident related issues
- Prepare the Construction Traffic Staging Plans with the Construction Team
- Ensure Temporary Works Drawings are in accordance with the relevant standards
- Monitor and evaluate the on-going effectiveness of traffic management activities of the Project, including road user delays and where necessary suggest corrective actions

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- Manage the Project's Road Safety Audit process and direct the Construction team to implement resultant corrective actions and maintain detailed records.
- Advise the Construction team on any issues raised as part of Short and Long Term Traffic Management Inspections
- Chair, manage and present at the monthly TTLG meeting
- Available for night and weekend work

4.2. Traffic Engineer

Traffic Engineer is to assist the Traffic Manager in road safety and traffic management during design and construction. The Traffic Engineer will be available when the Traffic Manager is not. The responsibilities of the Traffic Engineer are listed below:

- Minimum of 5 years either, in construction managing Projects requiring extensive traffic management or in a traffic engineering (construction) position
- Advise the Construction Team to ensure traffic management measures are planned in accordance with relevant safety regulations and standards
- Liaise with the RMS, TMC, Local Councils, NSW Police, emergency service agencies and other stakeholders on traffic and incident related issues
- Assist in preparing the Construction Traffic Staging Plans with the Construction Team and Traffic Manager
- Monitor and inspect the traffic management activities of the Project including road user delays and suggest corrective actions
- Inspect and report on the short and long term traffic management facilities and devices
- Advise the Construction Team of corrective actions from inspections and observations
- Provide supervision and guidance to short term traffic control and advise the Construction Engineer installing long term traffic management
- Investigative and report incidents; operate under the direction of the lead Emergency Service Agency at incident sites
- Create, maintain, apply for and manage the ROL and SZA approval process
- Create and update site specific TCPs for all short term works
- Available for night and weekend work

4.3. Traffic Foreman

Traffic Foreman will undertake the operational aspects of road safety and traffic management activities during construction. The Traffic Foreman will be available when the Traffic Manager and Traffic Engineer are not. The responsibilities of the Traffic Foreman are listed below:

- Minimum of 5 years managing traffic management teams or in a traffic focused foreman position
- Monitor and inspect the daily operations of traffic management activities of the Project, including road user delays
- Monitor the short and long term traffic management operations and devices of the Project and create relevant reports.
- Work with the Construction Team with corrective actions from inspections and observations
- Provide supervision and guidance to short term traffic control Subcontractor

- Take a 'first response' role to unplanned incidents and take relevant, safe and legal action at incident sites
- Operate under the direction of the lead Emergency Service Agency at incident sites
- Ensure short term traffic control subcontractor has the relevant Road Occupancy Licence (ROL), TCP and Speed Zoning Authorisation (SZA) approval on-site
- Regularly inspect and action any issues in short term traffic control, systems, paperwork or credentials
- Available for night and weekend work

4.4. Senior Traffic Control Room Operator (STCRO)

Senior Traffic Control Room Operators to guide the operational Road Safety and Traffic Management activities and Incident Management during construction. The STCRO would be available by contacting the TTCR. The responsibilities of the STCRO are listed below:

- Minimum of 5 years in a Motorway Traffic Control environment or Traffic Management in a senior supervisory role in a Traffic Management company
- Liaise and provide information to the TMC and emergency service agencies on traffic and incident issues
- Monitor Traffic Management activities on the Project including road user delays on the core and precinct road network and report as required
- Provide guidance and monitor short term traffic control and work with the Construction Engineer when installing long term traffic management
- Create and maintain staff roster in conjunction with Traffic Manager
- Create the Temporary Traffic Control Room Incident Log and ensure quality of information entered
- Manage and update TTCR policies and procedures
- Work on a 24hour, 7 day a week, shift work roster

4.5. Traffic Control Room Operator (TCRO)

Traffic Control Room Operators manage and guide the relevant operational Road Safety and Traffic Management activities and Incident Management during construction. The TCRO would be available by contacting the TTCR. The responsibilities of the TCRO are listed below:

- Minimum of 2 years in a Motorway traffic control environment, or, traffic management in a supervisory role in a traffic management company
- Monitor Traffic Management activities on the Project including road user delays on the core and precinct road network and report as required
- Provide guidance and monitor short term traffic control and work with the Construction Engineer when installing long term traffic management
- Report the start and finish times of ROLs'
- Provide a 'guidance' and 'direction' role in regard to unplanned incidents and take relevant, safe and legal action and operate under the direction of the TMC
- Maintain and manage the Temporary Traffic Control Room Incident Log
- Manage the towing responsibilities of the Project
- Work on a 24hour, 7 day a week, shift work roster

4.6. Incident response Team Member

CDS-JV will engage IRTs to undertake relevant real time operational road safety and traffic management activities and incident management response during construction. The IRT would be available 24 hours a day, but managed by the TCROs. The responsibilities of the IRT are listed below:

- Minimum of 2 years as a member of an incident response crew on an existing Motorway, or, in a team leader role for a traffic management company
- Provide a first response as well as install relevant traffic control for minor unplanned incidents along the core and precinct road network
- Collect road and traffic intelligence and pass on to the TTCR
- Implement traffic management arrangements either independently, or under the direction of the TTCR, the RMS Traffic Commander or the Emergency Services
- Provide immediate assistance to motorists along the core and precinct road network
- Assist, in the safest possible manner, in clearing of the road to minimise traffic effects along the core and precinct road network
- Work as an operational extension of the Temporary Traffic Control Room (TTCR)
- Be directed from the TTCR, however are capable of operating semi-autonomously with independent action for minor incidents
- Work on a 24 hour, 7 day a week, shift work roster

4.7. Construction Personnel and Responsibilities

The Traffic Management responsibilities for the Construction Team are described in Table 4.

Table 4: Roles and responsibilities of senior CDS-JV personnel with respect to traffic

Role	Responsibility
Construction Manager	<ul style="list-style-type: none"> • Supports delivery of Road Safety and Traffic Management objectives • Implements the principles and requirements of this CTAP • Provides direction and support to the Traffic Manager to enable effective planning of temporary traffic management arrangements • Ensures Construction team members receive the appropriate training
Superintendent	<ul style="list-style-type: none"> • Allocates field resources as required • Support delivery of Road Safety and Traffic Management objectives • Assists with implementation of this CTAP • Ensures field team members receive appropriate training
Project Manager (responsible for the work activity)	<ul style="list-style-type: none"> • Identify and organise traffic control measures and resources • Deliver the Road Safety and Traffic Management objectives outlined in this CTAP and TMPs. • Plans Work Activities to identify the traffic management arrangements • Organise the preparation of TCPs' and TMPs with Traffic Manager • Prepare VMPs for construction deliveries, haul movements, site accesses and crane work • Participate in response to unplanned incidents and hazards and task Incident Management teams to make the site safe • Manage lessons learnt from review of unplanned incidents • Organise and direct engineers to undertake long and short term traffic management inspections

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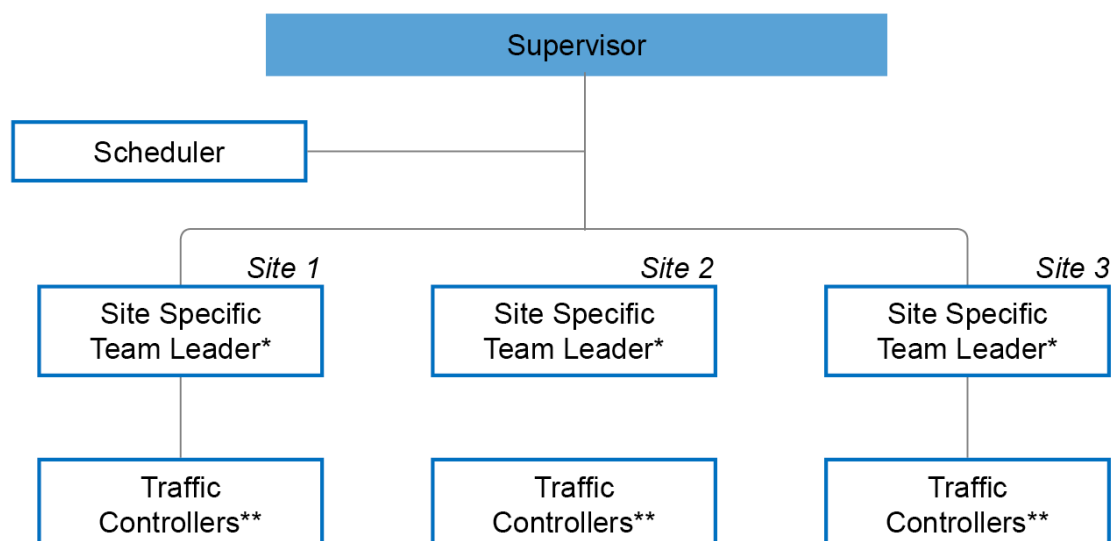
Role	Responsibility
Foreman	<ul style="list-style-type: none"> Manage traffic control measures and resources during shift Undertake daily inspections of short term traffic control Install and maintain long term traffic control layouts Manage VMPs' for construction deliveries, haul movements, site accesses and crane work
Communications Manager	<ul style="list-style-type: none"> Represent the Project for all Community and Stakeholders issues Conduct consultation with Stakeholders for traffic planning and provide an on-going liaison role Prepare and distribute changed traffic condition information to road users, transport operators and local communities Work with the Project Managers on the resolution of traffic complaints
Safety Director	<ul style="list-style-type: none"> Represent Project for all Safety and Health matters Develop guidelines, rules and policy for Project Safety Conducts inspections of Traffic Control Subcontractor in respect to safety Prepares toolboxes and inductions to address Project traffic and/or transport issues Reviews and approves SWMS

4.8. Short Term Traffic Control

Short term traffic control (includes pedestrian and cyclist management) would be managed, across areas and sites by the construction team with TCPs, technical advice and ROLs/SZAs provided by the Traffic Team with actual traffic control layouts installed by a specialist subcontractor traffic control company registered with RMS. All traffic controllers will be certified as competent and certifications recorded and sent to the SMC / RMS representative and IC to release G10 Hold Point on traffic controllers details

The proposed Subcontractor Traffic Control Team Structure and their responsibilities are shown in Figure 4:

Figure 4: Subcontractor Traffic Control Team Structure



5. Traffic Management Documentation

5.1. Initial Traffic Surveys

Traffic surveys will be undertaken, in accordance with Appendix C.5 of the SWTC Section 1.3 (cc). The information gathered from these surveys will be used to design, support and develop TMPs and TCPs for the Project.

5.2. Traffic Management Plans (TMPs)

TMPs detail the specific road safety and traffic management measures that would be applied whilst undertaking construction works of a significant nature, for staging on the M5 Motorway. The TMPs are based on the principles and strategies of this CTAP, and the obligations under the Project Deed, environmental approvals, SWTC and the requirements of relevant road authorities and other stakeholders.

TMPs would be discussed, reviewed and updated in consultation with the TMC and RMS at the Traffic Co-ordination Group (TCG). The relevant Local Council and/or Motorway Operator would be involved if required. Afterwards one of the following would occur:

- a) **Local/Regional Roads** - If the TMP is for a local or regional road then Council may be responsible for approving the TMP and this approval process would need to be determined during the Environmental Approvals process.
- b) **State Roads** - If the TMP was for a state road it would be then submitted to RMS and TMC for approval. Any submissions as well as approved copies would be given to SMC and Local Council, the Independent Certifier and if required the Environmental Representative for review.

TMPs would be presented at the regular Traffic and Transport Liaison Group (TTLG) meeting as part of the above process.

TMPs generally include:

- Overview of construction activities and traffic management requirements
- A programme (if required) of traffic management establishment
- Description of traffic management for specific construction events (e.g. full road closure)
- Traffic management measures/devices that would be implemented
- An analysis of resultant traffic conditions and impacts analysis
- Details of stakeholder consultations
- Appendices

5.3. Traffic Staging Drawings

Traffic Staging Drawings illustrate the traffic staging during the construction of the Works. These drawings document any traffic management measures and controls, define work areas and illustrate the available travel lanes.

5.4. Temporary Works Drawings

Temporary Works Drawings are detailed design Plans of changes to roadways that are required to facilitate construction staging. These drawings are based on traffic staging drawings and include details of the required earthworks, drainage, horizontal and vertical alignments, carriageway cross sections, lane configuration, intersection treatments (including signals), property access modifications, environmental controls, pavement design, lines and sign posting, TCPs, safety barriers and road side furniture.

CDS-JV will prepare temporary works drawings for temporary pavement tie-ins or new intersections.

5.5. Traffic Control Plans (TCPs)

Traffic Control Plans are diagrams that illustrate the signs, road markings and devices that would be installed to warn traffic and guide it around or if necessary through the work site. The TCP's address specific measures to comply with requirements of Australian Standard AS 1742.3, 2009 – Traffic control devices for works on roads and RMS TCAWs Manual, Version 4.

5.6. Vehicle Movement Plans (VMPs)

Vehicle Movement Plans are a drawings and diagrams that show preferred travel paths for vehicles associated with a work site entering or leaving the traffic stream. They are for construction vehicles accesses, ramps and side roads as well as points on routes remote from the work site such as vehicle turn around.

Consideration is given to the following in developing VMPs;

- Comply with relevant environmental approvals and the SWTC
- Minimise the number of vehicle movements by balancing earthworks and recycling excavated materials where possible
- Undergo a risk assessment to identify specific hazards and facilitate the application of mitigation measures
- Provide an efficient operation and use of major roads, but minimise the impact on the local road network and local community
- Implement appropriate environmental controls
- Consider hours of operation that minimise the impact on road networks and local communities

A typical VMP is Appendix E.

5.7. Pedestrian, Cyclist or Shared Path Movement

Changes to pedestrian and cyclists' access around, through and past the vicinity of construction sites as a result of construction works are managed within a TMP or TCP.

5.8. Road Opening Plan

The Road Opening Plan (a one off, stand-alone sub-Plan to this CTAP) will detail specific road safety and traffic management measures when opening the Project. The Road Opening Plan would be discussed, reviewed and updated in consultation with TMC and RMS the relevant Local Council and Stakeholders.

5.9. Process Instructions

Processes are instruction documents that detail how particular traffic related activities are to be carried out during the Works. Specific processes would be developed for traffic management activities as the need arises during the Project, including, but not limited to:

- Lane closure / road occupancy and roadwork speed limit submissions
- Temporary safety barriers
- Inspecting traffic controls
- Conducting road safety audits
- Carrying out traffic surveillance duties
- Responding to incidents

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When approved, these processes are given to relevant Construction or Traffic Team members, and specific training sessions, e.g. tool boxes and pre-start briefs would be conducted.

Table 5: General roles and responsibilities of short term traffic control subcontractor

Role	Responsibility
Supervisor	<ul style="list-style-type: none"> Organise and manage traffic control and traffic control crews for day/night shift Regularly inspect compliance across traffic control set-ups Obtain and keep current RMS Blue Card, RMS Yellow Card, RMS Red Card and RMS Orange Card Investigate incidents and action items in a timely manner Prepare reports and maintain incident records and inspections logs Organise and maintain vehicles and plant to a high standard of cleanliness and safety Enforce and adhere to Project Policies, Guidelines, Acts and requirements Ensure dockets and paperwork are complete and correct Assist with planning, development, implementation and revisions of TCPs Other items as directed by the Traffic and Transport Team
Team Leader	<ul style="list-style-type: none"> Team Leader also performs the role of Traffic Controller (see row below) Pre-start team members before work begins Ensure team has TCPs, ROLs, SZAs and safety equipment in working order Install and remove traffic control in strict accordance with a TCP and relevant Guides and Manuals Carry out maintenance of traffic control devices, signage, delineation and other equipment Relocate traffic control plant Obtain and keep current RMS Blue Card, RMS Yellow Card and RMS Red Card
Traffic Controller	<ul style="list-style-type: none"> Install and remove traffic control in strict accordance with a TCP and relevant Guides and Manuals and/or as directed by the Team Leader Carry out maintenance of traffic control devices, signage, delineation and other equipment Provide assistance if directed at incident sites including direction from Emergency Services Obtain and keep current RMS Blue Card and RMS Yellow Card

6. Managing Impacts of Construction

6.1. Impacts of Construction

The construction of Works impacts the existing traffic flows along roads in close proximity to the Project. CDS-JV aim to minimum road user delays and maintain access for transport operators.

Traffic Management and traffic impacts from construction activities will be considered during pre-construction planning in the following ways:

- The capacity of roads (number of traffic lanes) during peak times is to be maintained in each direction to minimise traffic delays
- Works requiring lane occupancies during the day where practicable it would be nominally after 10am and prior to 3pm and at night nominally after 8pm and prior to 5am when traffic volumes are lower and traffic arrangements may be implemented with minimal traffic disruption. Occupancies of traffic lanes shall be subject to ROL conditions of approval issued by the TMC.

Some traffic impacts are, however, unavoidable during the construction stage and the potential restrictions may require:

- One lane alternate (stop/slow) operations which may result in temporary delays and increased travel times
- Haulage operations and over-dimension vehicle movements may create temporary traffic hazards for other vehicles in the vicinity of haulage operations
- Short term, short distance contra-flow arrangement with reduced speed limit
- Full local road (short term) night closures which may result in temporary delays and increased travel times

6.2. Risk Management

CDS-JV manage the risks associated with traffic management by ensuring no on-site activity that affects traffic commences without an approved Construction Area Plan Risk Assessment. The Traffic Manager and Construction Managers will ensure work occurs onsite as required by this CTAP, TMPs', TCPs' and ROL as approved by TMC.

Assessments will be conducted to identify potential road safety and traffic management risks associated with the works. Identification of these risks would require input from stakeholders including; Construction team members, RMS, TMC, Emergency Service Agencies, Transport Agencies and Local Councils.

The Traffic Manager and Safety Director will identify the risks (Appendix B), and develop strategies (if required) for traffic safety and management by using some or all of the following measures:

- Undertake Road Safety Audits
- Surveillance and monitoring of processes
- Training and evaluation of competency of personnel
- Assessment and inspection of equipment or controls
- Introduction of additional hold or witness points
- Auditing of system and process
 - Independent audit, review or verification by third party
 - Safety Team auditing of temporary works
 - Monitoring of road network conditions.

6.3. Local Access and Amenity

Minimising the impact to the amenity of local residents in the vicinity of the construction works is necessary, and various environmental and traffic management measures may include:

- Considering the access requirement of adjacent properties when determining Site access points
- Minimising queuing of construction vehicles in the local road network
- Using major arterial roads and regional roads wherever practicable for haulage routes
- Providing parking facility on site for personnel
- Review potential property access issues during site inspections and implement corrective actions if issues identified
- Advise of changes through the TTLG

Other major construction Projects planned during the same period as the New M5 Project may impact the road network in a manner outside CDS-JV's control.

6.4. Dilapidation Reports and Monitoring Roads

CDS-JV will prepare road dilapidation reports for all nominated non-arterial roads likely to be used by construction traffic prior to commencement of construction.

At completion of construction works, in accordance with the relevant approval documents the reports would be submitted to the relevant road authorities and CDS-JV would undertake repairs for any damage that has resulted from the Works.

Where reasonable and appropriate the following mitigation measures would be implemented:

- Site access points would be developed with appropriate consideration of access requirements for adjacent properties and businesses
- TCPs would be prepared, where required, for any temporary changes to the traffic environment associated with Site establishment and use
- PMPs would be prepared, where required, for any temporary changes to pedestrian access associated with Site establishment and use
- VMPs would be prepared, where required, for any access associated with establishment and use
- Access for emergency vehicles and to fire fighting equipment (hydrants) would be maintained
- Access for all utility services (water, electricity, gas, telecommunications) to all pits, yards and sub-stations

6.4.1. Potential Environmental Impacts

The Project would implement controls and measures for the haulage operations to minimise the impacts on surrounding environment and road network.

Environmental controls are outlined in the Project's Construction Environmental Management Plan

Main measures to be applied include:

- Compulsory covering of loads prior to leaving the site
- Where required provide wheel cleaning facilities at major access points
- Dust suppression measures would be implemented at loading / unloading areas and along the routes
- Haulage vehicle noise and pollution emission will be monitored to ensure compliance with the vehicles manufacturer's specifications

- Clean-up crews, including street sweepers will be available to manage material spills and maintain road surfaces
- Haulage vehicles undergo regular maintenance to ensure minimal impact to air quality and to reduce the risk of spills
- For haulage operations outside of approved construction hours noise modelling will be conducted and the use of local roads kept to a minimum.

6.5. Road Network Assessment

The Traffic Team conduct assessments of the road network directly affected by the construction activities and where required include the results in the relevant TMP. These assessments assist in determining a need for specific mitigation measures that may include, but are not limited to:

- Existing on-street parking, (including type and associated time limits)
- Existing Traffic Controls
- Traffic Control Signals (TCS)
- Existing intersection configurations
- Restrictions on existing traffic movements (right turn bans)
- Existing road occupancies (TMC would be asked to provide contact details of conflicting ROLs)
- Public Transport (buses (includes stops), taxis)
- Traffic generating developments, (e.g. schools, churches, industrial areas and hospitals)
- Temporary access arrangements or restrictions for local residents, businesses, public facilities
- Emergency vehicle access points
- Heavy vehicle movement restrictions, including over dimension vehicle loads
- Pedestrians, including disabled persons
- Cyclists

6.6. Program and Construction Hours of Operation

Civil construction activities generally take place from 7am to 6pm, Monday to Friday and 8am to 1pm Saturday, with no work on Sunday or public holidays. However, certain activities would need to take place during evening, night time periods, Sundays and Public Holidays such as:

- Technical considerations (e.g. quality specifications for placement of concrete pavement)
- Safety reasons
- To minimise disturbance to existing road traffic flows
- To minimise disturbance to local road traffic flows
- To minimise the overall duration of construction
- Out of hours works may take place without approval in the following circumstances:
- The works do not cause construction noise to be audible at any sensitive receiver
- For the delivery of materials as required by NSW Police or other authorities for safety reasons, or
- In an emergency to avoid the loss of lives, property and/or to prevent environmental harm

Tunnel construction activities operate 24 hours daily. During the peak construction periods hauling of spoil, shift changes, light vehicle and pedestrian movements would also occur out of standard hours for 24 hours in accordance with the Minister's conditions of approval.

6.7. Transport Logistics – Mass Haulage

The following practices would be used to promote scheduling measures for minimising road user delays:

- Initial Induction and regular briefing for transportation Companies on the Project.
- Provide areas on site for trucks prior to accessing the site and at loading/unloading points such as staging or layover areas to prevent trucks queuing on public roads adjacent to construction sites.
- Where necessary providing personnel at Site Gates to meter the dispatch of trucks onto the external road network to break up slow moving truck convoys that may result in road user delays
- Ensure spoil ready for the truck numbers scheduled in the off-peaks.

After hours haulage times will be documented in the Spoil Management Plan.

6.8. Access for Over Dimensioned Vehicles

Over dimensioned vehicles are defined as vehicles over legal height, weight, length, width.

The movement of Over Dimensioned Vehicles requires a permit controlled by the RMS Special Permits Unit. The “Special Permits for Oversize and Over Mass Vehicles and Loads”, (2007) document outlines the various operating restrictions and conditions.

Deliveries requiring over dimensioned vehicles will be undertaken by permitted specialist haulage subcontractors.

Some permits may require co-ordination with the NSW Police.

All short term traffic control with an ROL approval would:

- Consider movement of heavy vehicles and over-dimension loads
- Limit restrictions on the road and when required provide alternatives to maintain access for transport operators
- Liaise with NSW Police, Permit Authorities and Operators.
- Provide up-to-date information of any obstructions that may impact on movement of over-dimension vehicles
- Have traffic controllers co-ordinate the movement of over-dimension vehicles through the work site
- If required, arrange the removal and re-instatement of roadside furniture and traffic control devices that impede over-dimension vehicle movements.

6.9. Managing the Buses

Potential impacts to bus routes during the construction period will be managed in consultation with TfNSW – Sydney Buses and Punchbowl Bus and Coach.

Transdev operates routes nearby but are not affected by the construction sites.

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Table 6: Existing Bus Routes (bus companies may change this information at any time)

	Route No.	Local Road Upgrades	Tunnel Sites	Western Surface Works
Sydney Buses	N11	•		
	N10	•		
	305	•		
	348	•		
	400		•	
	418	•		
	422	•	•	
	493		•	•
	M41		•	
Punchbowl Bus & Coach	446			•
	450			•
	946			•

Impact to bus stops or bays during the upgrade of local roads will be managed in consultation with the main bus operator in the area TfNSW – Sydney Buses.

Table 7: Bus stops or bays that may be impacted

Location	Impacts
Bourke Rd north of Gardeners Rd N/B	Bus stop removal and relocation to existing stop
Bourke Rd north of Gardeners Rd S/B	Bus stop removal and relocation to existing stop
Gardeners Rd west of Bourke Rd E/B	Bus stop removal and relocation to existing stop
Princes Hwy south of Campbell St S/B	Bus stop relocation (not removal)
Canal Rd near Princes Hwy	Not affected
Euston Rd N/B	Bus stop relocation (not removal)

Pedestrian access for bus stops and bays, including disabled facilities, will be maintained during the development of TCPs.

Where existing bus facilities cannot be maintained, temporary facilities or alternative stops will be utilised. Temporary facilities will be constructed in consultation with the TfNSW – Sydney Buses, RMS, TMC, Local Council/s and bus service providers.

Dedicated school bus services will operate as they currently do.

The diagram described as Figure 58 shown on the page over indicates the affect to bus stops which are in conflict with the construction footprint for the local roads upgrades. The Black text boxes represent the strategy at the time of preparation of the EIS. The White text boxes represent the current proposal.

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Figure 58 Bus stops requiring closure or relocation during construction

6.10. Managing Pedestrians

Pedestrian needs will be considered as follows:

- Impact of construction works on existing pedestrian footways
- Number of pedestrians
- Type of pedestrian activity: whether office, retail, residential, school or recreational
- Origin and destination points of the pedestrians, and their desired lines / travel path;
- Needs of vulnerable pedestrians, such as children, the elderly and disabled people.
- Proximity of pedestrian generation developments, such as schools, shopping centres, bus stops/layovers.

Pedestrian walkways will be considered during the development of TMPs and TCPs

CDS-JV will utilise physical barriers to segregate works from public areas

Physical barriers will be maintained while in use and appropriately secured. Where the work areas restrict access to existing footpaths, CDS-JV will implement alternative routes utilising existing pedestrian infrastructure. If a temporary footpath is required, the path will be:

- Defined and signposted.
- Constructed of an all-weather surface
- Designed to accommodate pedestrians within the area
- Protected with a hoarding and/or barriers
- Maintained during operation

The AUSTRROADS Guide to Road Safety provides guidance on the design parameters of footpaths. The AUSTRROADS Guide to Traffic Engineering Practice – Pedestrians and relevant parts of Austroad AGTM Set of Guides provides guidance on the needs of pedestrians.

RMS's requirements and specifications will be considered when designing alternative pedestrian footpaths and associated facilities. Likely pedestrian impacts are listed in Table 8.

Please refer to the figures in Appendix C "Construction Site layouts and Access Plans" where the alternative pedestrian pathways are depicted on each of the plans.

Table 8: Likely Pedestrian Impacts

Location	Impacts	Duration
Shared Path on southern side of M5 between Karingal St and Kindilan Underpass	Existing shared path closed and pedestrians and cyclists detoured to the northern side shared path via Karingal St underpass and Kindilan Underpass. The shared path is to be diverted to a temporary alternate route with signposting and delineation to current standards	36 months
Shared Path on northern side of M5 between Garema Cct and Kindilan Underpass	Existing shared path closed and pedestrians and cyclists detoured to a newly aligned shared path that runs along the rear of the site. This is the preferred option but an alternate route using local roads to karingal Underpass may be considered. Details of the alternative pedestrian and cyclist route as well as the impacts of the detour may be found in Appendix C. The shared path is to be diverted to a temporary alternate route with signposting and delineation to current standards	36 months

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Location	Impacts	Duration
Kindilan Underpass	Partially closed to allow construction vehicle access between Kingsgrove North and Kingsgrove South as well as pedestrian / cyclist access.	32 months
Shared path on southern side of the M5, western side of Bexley Rd at Bexley Rd South Site	Shared path realigned, not closed, to allow for site establishment and Project construction. Minor temporary impact to pedestrians and cyclists. The shared path is to be diverted to a temporary alternate route with signposting and delineation to current standards	32 months
Campbell Road, Euston Road, Bourke Rd, Bourke St, Gardeners Rd and Princes Hwy (where it intersects with Campbell Rd)	Varied and periodic footpath closures and deviations for road widening. Pedestrians detoured to an alternative route or alignment	24 months

6.11. Managing Cyclists

Likely impacts to cyclists are listed in Table 9. Please refer to the figures in Appendix C - Construction Site Layouts and Access plans where the alternative cycle pathways are shown.

Table 9: Likely Impacts to Cyclists

Location	Impacts	Duration
M5 Motorway - EB King Georges Rd to Bexley Rd and - WB Bexley Rd to King Georges Rd	Cyclists will be unable to use the M5 through the work site due to the installation of road safety barriers to provide worksite protection. Cyclists would be detoured to an alternative route on existing roads/paths. Refer to Appendix C	40 months
Shared Path on southern side of M5 between Karingal St and Kindilan Underpass	Existing shared path closed and cyclists detoured to the northern side cycleway via Karingal St underpass and Kindilan Underpass. Refer to Appendix C	36 months
Shared Path on northern side of M5 between Garema Cct and Kindilan Underpass	Existing shared path closed and cyclists detoured to a newly aligned path that runs along the rear of the site. Refer to Appendix C	36 months
Kindilan Underpass	Partially closed to allow construction vehicle access between Kingsgrove North and Kingsgrove South as well as cyclist access. See Section 8.1. Refer to Appendix C	32 months
Pedestrian path on southern side of the M5, western side of Bexley Rd at Bexley Rd South Site	Path realigned, not closed, to allow for site establishment and Project construction. Refer to Appendix C	32 months
Campbell Road, Euston Road, Bourke Rd, Bourke St, Gardeners Rd and Princes Hwy (where it intersects with Campbell Rd)	Possible periodic short term works footpath closures and deviations for road widening. No long term detours are expected for pedestrians and cyclists.	24 months

Any alternative cycle route or path required would be:

- Defined and signposted to indicate direction of travel
- Maintained whilst in operation

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- Meet the minimums specified by RMS, AustRoads Guide to Traffic Engineering Part 14: Bicycles and SWTC Exhibit A, Appendix C.5, Section 2.10
- Protected by a hoardings and/or barriers

Consideration would be given to cyclists by assessing:

- Number of cyclists using the road
- Type of cycling activity: school children, recreational, commuter, utility, touring or sport training
- Origin and destination points of the cyclists, and the connectivity of their routes
- Needs of vulnerable road users such as cyclists, children and mobility impaired persons.
- Proximity of cyclist generating developments, such as schools, public transport terminals and the travel speed of cyclists.

Cyclist movements (along with other road users) at and around specific work locations would be addressed in a TMP and/or TCPs as required.

6.12. Kindilan Underpass

The Kindilan Underpass located at the western end of both Kingsgrove sites carries pedestrian and cycle traffic.

The underpass will be used by construction vehicles to access both Kingsgrove sites.

The underpass will be divided by a barrier/hoarding to allow construction vehicles to operate on the eastern side of the underpass and pedestrians and cyclists on the western side.

To lengthen the bridge full closures of the underpass are required. There is likely to be four separate week long full closures over the life of the works plus occasional day time full closures.

During every full closure an alternate route via Coolangatta overpass, shared path on northern side of M5 and Karingal St underpass will be in place. This alternate route uses existing paths and relevant signage will be added as required.

6.13. Managing Construction Traffic

Construction vehicle movements to and from site and throughout the road network including the following activities.

- Delivery of materials, plant and equipment to site/s
- Delivery of concrete from batching plant/s to site location/s
- Regular trips by construction personnel in work trucks and utes
- Removal of tunnel spoil through mass haulage operations

All drivers employed on the Works, whether direct employees or not, have a responsibility to drive safely, and comply with State road regulations, the Australian Road Rules and any other directives issued by CDS-JV. Construction Vehicle Driver Code of Conduct will be created.

Figure 5: Heavy Vehicle Driver Code of Conduct

EXAMPLE HEAVY VEHICLE DRIVERS CODE OF CONDUCT	
Purpose and Objectives	This Heavy Vehicle Driver Code of Conduct aims to minimise the impacts of construction traffic on transport networks and adjoining properties. The purpose of this Code is to clearly define and detail acceptable behaviour for all heavy vehicle drivers operating in connection with the Works including CDS-JV, materials supply and subcontract drivers.

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EXAMPLE HEAVY VEHICLE DRIVERS CODE OF CONDUCT

Responsibilities of Drivers	<ul style="list-style-type: none"> • Drivers are to follow ALL rules and regulations required by law including: <ul style="list-style-type: none"> – Hold a current and appropriate licence for the vehicle they are operating – Comply with speed limits on all roads – Obeying posted (road) load limits – Comply with all road works speed limits – Obey construction traffic signs and devices. • Drivers are to practise safe driving and behaviour which includes, but is not limited to: <ul style="list-style-type: none"> – Driving in a manner that is appropriate with road and weather conditions – Not operating any machines whilst suffering from fatigue or under the influence of drugs and/or alcohol. • Drivers must behave in a professional manner at all times. No yelling at others. • Drivers must adhere to routes nominated by CDS-JV for each specific construction activity and they must not use roads if their weight is over the posted load limit. • Routes passing schools and childcare centres should be avoided where reasonably practicable during school zone periods (08:00-09:30 and 14:30 – 16:00). These locations and times would be identified and confirmed by CDS-JV during planning of the work and communicated to all drivers. • Drivers should only park or wait in approved roadside lay-bys or hard shoulders as directed by CDS-JV (these would be agreed with the RMS and Local Councils). Do not queue at worksite gates. • Drivers are to arrive and depart from Project construction sites during approved hours, 07:00 – 18:00 Monday to Friday and 08:00-13:00 on Saturday, unless alternate approvals are gained by CDS-JV. Drivers would be turned away if they arrive outside of approved hours. • Drivers parking are to engage the park brake and leave the vehicle in gear. Never leave the vehicle with the engine running. Drivers leaving their vehicle must wear appropriate PPE (site standard). • Vehicles must not transfer dirt or debris onto public roads. If any materials are deposited on the roads then the CDS-JV Supervisor must be contacted immediately. • Covering truck loads is mandatory and, where required, tailgates must be swept clean before leaving site. • If approached by individuals with enquiries about the Works, drivers are not to engage with the individual beyond providing them with the community information line number. • As a courtesy to individuals who may be impacted by driver behaviour, drivers would: <ul style="list-style-type: none"> – Not use compression braking where noise is likely to adversely impact on residents – Ensure that there is no littering – Remain calm and courteous when in contact with other members of the public – Maintain trucks in good working order and a clean and tidy condition – Not block residential driveways or any other access points 		
SIGNED:		DATE:	

6.14. Vehicle Movements within Site

There are a range of hazards for vehicles on site, including: rough surfaces; low clearance; other larger plant and existing infrastructure. Of equal importance is the safety of unprotected construction personnel working within the work site. For each stage of work CDS-JV would ensure that:

- Regular toolbox meetings to discuss on-site vehicle movements and changes to work areas
- Site plant is fitted with flashing yellow lights, atonal 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

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- Warning signs or traffic controls are installed on the approach to hazards or conflict points;
- Consideration will be given to reducing on-site speed limits

6.15. Site Access

The most hazardous movement for construction vehicles occurs when entering or exiting Site.

To provide a safe entry and exit to the work site from safe access points CDS-JV will:

- Keep the number of access points to a minimum
- Ensure new construction access points be designed to minimise impacts so far as practicable, on existing intersections, traffic facilities or traffic generating developments
- Only install access points that are visible and have adequate sight distance
- Design intersections and access points in accordance with AUSTRROADS Part 5 – Intersections at Grade and the RMS Road Design Guide
- Ensure intersection configuration has capacity to accommodate traffic generated by construction.
- Where practicable separate pedestrians from site access points
- Security fences and gates maintain sight lines and enable vehicles to park clear of adjacent travel lanes
- Ensure access points are visible to approaching traffic and signposted accordingly.

The AUSTRROADS Guide to Traffic Engineering and the RMS Road Design Guide provide guidance on design of intersections and access points.

Short term traffic control may be required from time to time to facilitate short-term major haulage and the movement of over-dimension vehicles particularly during site establishment.

Temporary traffic controls that may be installed include:

- Truck warning signs in advance of access points (in line with TCAWs);
- Traffic controllers at access points to facilitate entry and exit movements;

Project offices and site access points will be sign posted on the approaches and at the access with a unique identification number as shown in Table 10. The letter designates the construction zone and the numbers for each site. The sign will be based on RMS green directional signage and size depends on the space available around existing signage, driveway sight distance and traffic signals at each location.

Table 10: Gate Numbering Example

Site	Likely Gate Numbering
Kingsgrove North	GATE KN1
Kingsgrove South	GATE KS1
Bexley Rd North	GATE BN1
Bexley Rd South	GATE BS1
Bexley Rd East	GATE BE1
Kogarah	GATE KO1
Canal Rd	GATE CN1
Campbell St	GATE CP1
Burrows Rd	GATE BR1
Burrows Rd Bridge	GATE BB1

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Site	Likely Gate Numbering
Bourke Rd	GATE BU1
Euston Rd	GATE E1

Project office, site and site access points are located at points that provide safe intersection sight distance (SISD), or desirable entering sight distance (ESD).

Access Gate locations are in Appendix C.

Typical site traffic flows occur between 0630 and 1900 Monday to Friday, and between 0700 and 1330 Saturdays. The estimated evening peak hour is based on most staff and construction workers departing between 1630 and 1830, (approximately 50% of total vehicles departing per hour).

The adopted vehicle occupancy rates for office staff, design staff, managers, engineers, supervisors, and technical staff are 1 per vehicle and 3 per vehicle for construction workers.

Managers, Engineers, Supervisors, Surveyors, Soil Lab Technicians and Plant Mechanics conduct regular trips throughout the day. It has been estimated that these staff on average undertake two in and two out movements per day; other staff undertake one in and out movement per day. Movements are not concurrent and will ramp up as the Project reaches peak production and taper off as the tunnel and civil works near completion. Table 11 shows the estimated light and heavy vehicle movements.

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Table 11: Estimated Light and Heavy Vehicle Movements of Main Office/sites during peak operation

Source: Traffic and Transport Technical Working Paper New M5 EIS

Western Construction Compounds (C1-C6)

Construction compound	Type	Access point	Daily vehicles	AM peak (veh/hr)	PM peak (veh/hr)
Kingsgrove North (C1)	Light vehicles	Primary access: Garema Circuit (left in, left out)	989	31	26
	Heavy vehicles	Secondary access: M5 East Motorway (left in, left out)	1,975	62	56
Kingsgrove South (C2)	Light vehicles	Primary access: Garema Circuit through the Kingsgrove North compound (left in and left out)	24	1	1
	Heavy vehicles	Secondary access: M5 East Motorway (left in, left out)	72	3	3
Commercial Road (C3)	Light vehicles	Commercial Road (right in, left out)	133	7	7
	Heavy vehicles		192	8	8
Bexley Road North (C4)	Light vehicles	Bexley Road (left in and left out)	96	4	4
	Heavy vehicles		432	18	18
Bexley Road South (C5)	Light vehicles	Bexley Road (left in and left out)	96	4	4
	Heavy vehicles		432	18	18
Bexley Road East (C6)	Light vehicles	Wolli Avenue (left in, right and left out)	418	32	32
	Heavy vehicles		0	0	0
Total	Light vehicles		1,756	79	74
	Heavy vehicles		3,103	109	103

Arncliffe Construction Compound (C7)

Route	Light vehicles			Heavy vehicles		
	Daily vehicles	AM peak (veh/hr)	PM peak (veh/hr)	Daily vehicles	AM peak (veh/hr)	PM peak (veh/hr)
Route 1	151	7	7	443	25	25
Route 2	48	2	2	116	7	7
Route 3	151	7	7	443	25	25
Route 4	24	1	1	55	3	3
Total	374	17	17	1,055	60	60

Eastern Construction Compounds (C8-C14)

Construction compound	Type	Access point	Daily vehicles	AM peak (veh/hr)	PM peak (veh/hr)
Canal Road (C8)	Light vehicles	Canal Road (left in right out from signalised intersection)	1,132	40	54
	Heavy vehicles		710	50	50
Campbell Road (C9)	Light vehicles	Campbell Road (left and right in, left and right out)	1,038	52	52
	Heavy vehicles		716	26	32
Landfill Closure (C10)	Light vehicles	Campbell Road (left and right in, left and right out)	170	10	10
	Heavy vehicles		218	12	12
Burrows Road (C11)	Light vehicles	Burrows Road (left and right in, left and right out)	260	12	14
	Heavy vehicles		200	8	10
Campbell Road bridge (C12)	Light vehicles	Burrows Road (right in, left out)	79	4	4
	Heavy vehicles		117	5	4
Gardeners Road bridge (C13)	Light vehicles	Burrows Road (left and right in, left and right out)	260	12	14
	Heavy vehicles		196	8	9
Sydney Park (C14)	Light vehicles	Campbell Road (left and right in, left and right out)	96	4	4
	Heavy vehicles		61	4	4
Total	Light vehicles		3,035	134	152
	Heavy vehicles		2,218	113	121

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6.16. Construction Car Parking Provisions

In general each of the construction sites has been designed to separate light and heavy vehicle movements.

Light vehicle on-site parking supply for each construction site during peak operation is listed in Table 12 and assumes: one person per vehicle, no public transport use, no annual or sick leave, parking within site but not always in a marked space and that everyone would arrive and stay for the duration of the working day.

Table 12: Light construction vehicle on-site parking supply and demand during peak operation

Site	Parking spaces	Likely employee nos.
Kingsgrove North#	202	200^^
Kingsgrove South - Tunnel	18	20
Bexley Rd East*	105	138^^
Kogarah	203	300^^
St Peters Interchange**	290	320^^
Burrows Rd Bridge	10	15
Bourke Rd	35	30
Euston St^	33	15

#parking for both civil and tunnel staff

*parking for Bexley North and Bexley South sites will be here. Seven additional spots at Bexley North

**encompasses three sites: Canal Rd, Campbell St, Burrows Rd

^ main use only during establishment of Campbell St site

^^Includes shift work. Not all on-site at the one time

Staff and workforce parking will be restricted to the sites. This will be regularly reinforced through the Project inductions and tool box talks.

6.17. Alternative Access – Utilities, Residents and Business

Local Councils, Utility Agencies (water, electricity, gas, telecommunications) and existing billboard owners will be permitted access to their infrastructure on Site after consultation with the Project and after completing a Project Induction.

CDS-JV aims to maintain existing property access points where practicable but where this cannot be achieved will provide alternative temporary access.

Proposed changes to existing access arrangements will be discussed with residents and businesses prior to commencement of Works. Upon completion of the construction works, the original property access would be re-instated or the newly built access opened for use.

The maintenance of access arrangements will be detailed in Traffic Control Plans (TCPs), where required.

6.18. M5 Motorway Access

All access to and from the M5, regardless of carriageway direction, will be left in and left out only.

These gates also provide access to site for emergency services.

6.19. Modal Shift Strategy

Workers will be encouraged to use alternative modes of transport.

- Kingsgrove South And North: Is near the Beverly Hills train station and buses provide transportation to Wirega Ave and a short walk into site

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- Bexley Rd North, South And East: A six minute walk from Bexley North train station
- Canal Rd And Campbell St: A fifteen minute walk from St Peters train station and several bus services travel along Princes Highway providing links to nearby train stations and the city
- Burrows Rd And Burrows Rd Bridge : A fifteen minute walk from St Peters train station and several bus services travel along Princes Highway providing links to alternative train stations or the city
- Bourke Rd: A nine minute walk from Mascot train station and several bus services travel along Gardeners Rd providing links to alternative train stations or the city
- Euston St: A ten minute walk from St Peters train station and several bus services travel along Princes Highway providing links to alternative train stations or the city

Relevant public transport information is available for workers to access the public transport network.

Security fencing, flood lighting and a security system to restrict public access to site areas will be provided.

6.20. Haulage and Delivery Operations (Heavy Vehicle Movements)

The construction of this Project involves tunnel excavation, removal of spoil to designated spoil sites, the import of quarry materials, concrete and steel and float large plant and equipment to and from site on a regular basis.

This section provides an indication of the likely heavy vehicle movements that would be generated at each of the construction zones/sites (Table 11). It should be acknowledged that these movements may change throughout the works in response to a variety of factors such as:

- Potential changes to construction hours (e.g. hauling at night)
- Potential changes to construction program
- Potential changes to parties receiving earth spoil or parties supplying construction equipment
- Machinery breakdown and inclement weather
- Light vehicles also travel on these routes

6.21. Development of Haul and Delivery Routes

Haul and delivery truck routes to and from construction sites will be developed to minimise impacts to local streets and maximise use of state and regional roads by using, where possible, Higher Mass Limit (HML) routes as outlined by RMS as part of their Intelligent Access Program (IAP) and the approved RMS Restricted Access Vehicle (RAV) routes.

Project spoil will be transported using single unit trucks (with and without trailers) with a Gross Vehicle Mass (GVM) between 40-48 tonnes.

The 'Spoil' sites are those sites to which spoil generated by the Project is sent and these sites will be confirmed as part of the Environmental Approval and subject to any Development Application or any other relevant approvals. The intent is for spoil to be hauled west along the M5 to the M7 and South along the Princes Hwy.

Delivery and haul route development will use the RAV, HML, and any requirements of TMC and RMS however limited to the extent that not all points of origin and destination can fall within these requirements.

Restricted Access Vehicle (RAV) Routes

RAV routes are marked in green in Figure 6. Routes marked in pink (Figure 7) have minimum vertical clearances of 4.6m.

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Figure 6: Restricted Access Vehicle Routes – Approved for B-Double use

(Source: <http://www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html>)

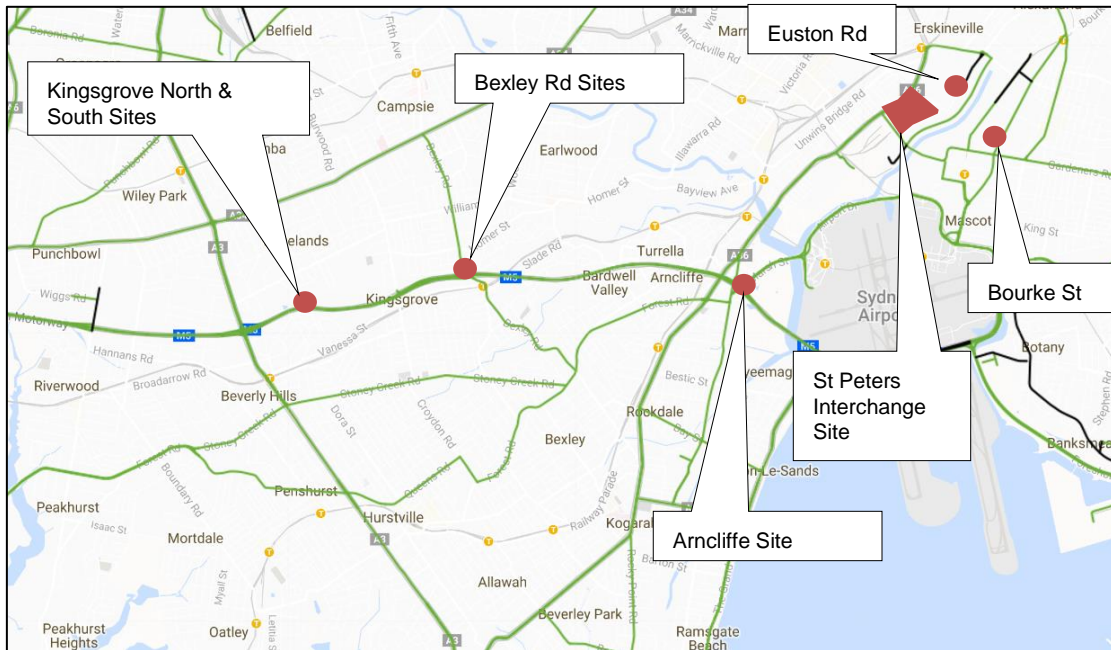
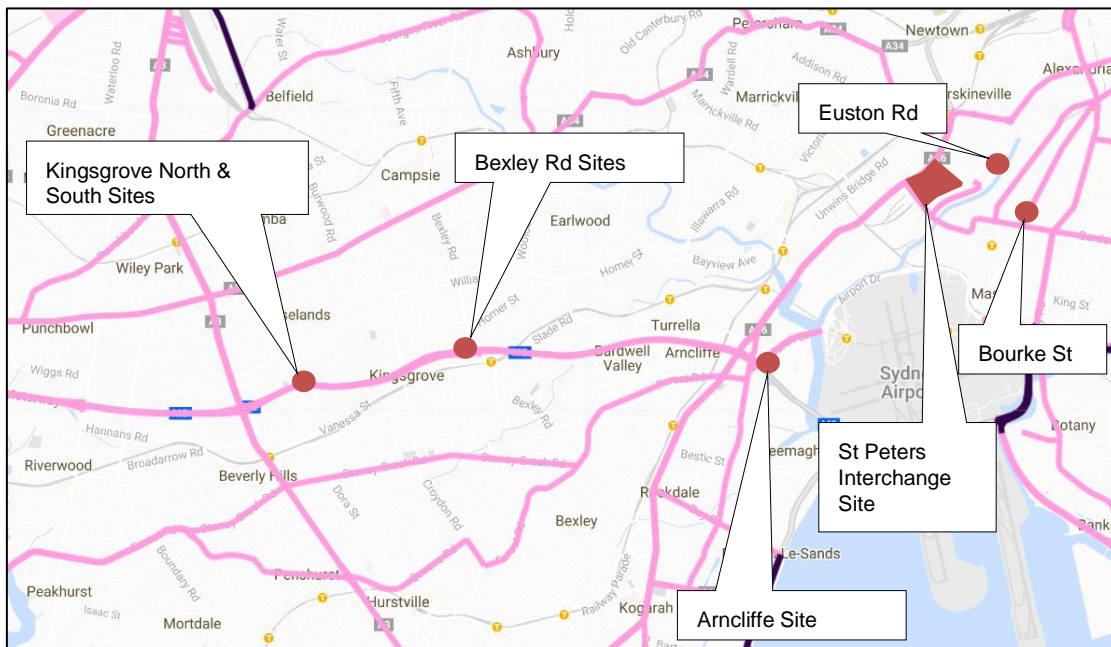


Figure 7: Restricted Access Vehicle Routes – Minimum Vertical Clearance of 4.6m

(Source: <http://www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/restricted-access-vehicles-map/map/index.html>)



Higher Mass Limit (HML) Routes

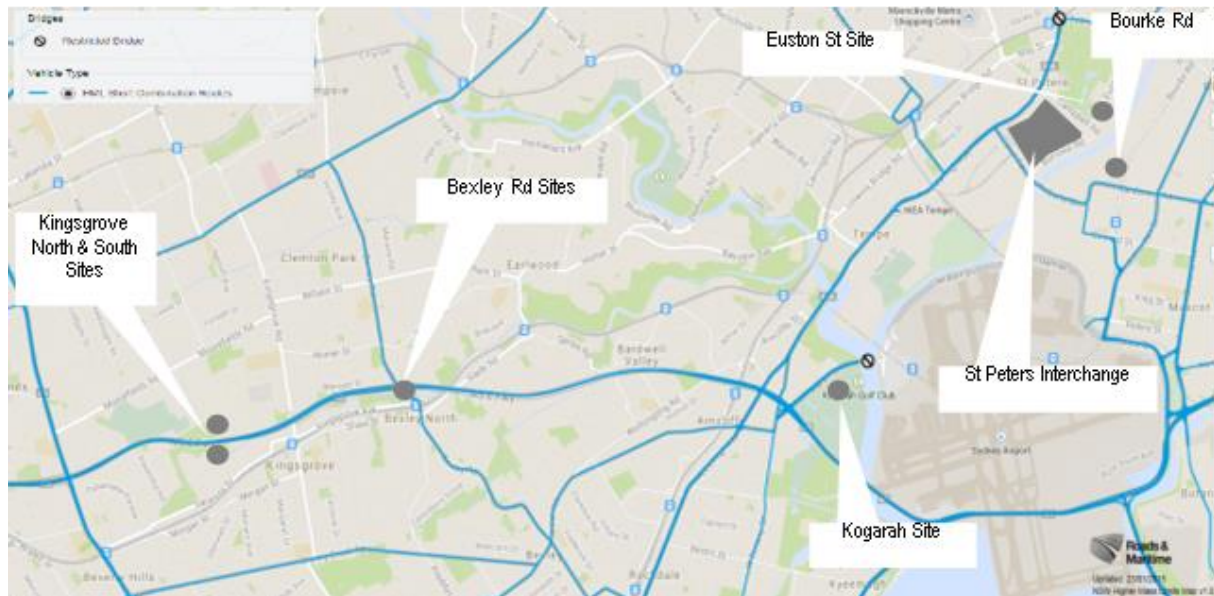
HML routes allow haul trucks (truck and trailers) to increase their GVM by 10% if they register with and conform to the regulations set out by RMS's Intelligent Access Program (IAP). An overview of HML routes, as gazetted by RMS, is illustrated by Figure 8: Overview of Higher Mass Limit Routes.

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Subcontractor haulage companies would be encouraged to become part of the Intelligent Access Program.

Figure 8: Overview of Higher Mass Limit Routes

(Source: <http://www.rms.nsw.gov.au/business-industry/heavy-vehicles/maps/intelligent-access-program/hml-map/index.html>)



6.21.1. Haulage Operations

Hauling will occur within approved construction periods (Monday to Friday 7am to 6pm and 8am to 1pm Sat) and as per any agreements made, with relevant authorities, for hauling outside approved construction periods. Initial draft heavy vehicle movement numbers are set out in Table 11, and initial draft heavy vehicle routes in Appendix H.

Haulage routes are subject to change and CDS-JV would ensure that SMC, RMS, TMC, Local Councils and Motorway Operator are informed.

The Spoil Management Strategy will deal with receiving sites and reuse in more detail.

6.21.2. Delivery Operations

Deliveries will occur within approved construction periods (Monday to Friday 7am to 6pm and 8am to 1pm Sat) and as per any agreements made, with relevant authorities, for hauling outside approved construction periods. Draft construction vehicles routes are in Appendix H (of which deliveries are part of) and heavy vehicle movement numbers (of which deliveries are part of) are outlined in Table 10.

Raw Material Delivery

Raw materials such as sand, cement and aggregates would be transported to site from various locations, across Sydney. Suppliers will be directed to utilise the arterial road network with single unit trucks (GVM limit between 40-48 tonnes, with and without dog trailers) and semi-trailers (bored pile or steel delivery).

Concrete Delivery

Concrete will be transported to the relevant sites using concrete agitators. The majority of concrete deliveries will be for shotcreting in the mined tunnel sections and tunnel shaft construction. The primary routes for concrete agitators would be state and regional roads, King Georges Rd, M5 Motorway and Princes Highway.

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6.22. Parking

Due to the extensive change in the road layouts as part of the St Peters interchange and the local road upgrades, there are permanent impacts to on-street parking. This is described the table below. Most of the spaces lost occur along non-residential roads. The final numbers would be confirmed during detailed design and documented in more detailed traffic management plans.

Table 13: Impact to On Street and Off Street Parking during peak operation

Road section	Indicative impact
Campbell Street, between Princes Highway and Unwins Bridge Road	Addition of 34 on-street and 26 off-street spaces
Albert Street	Loss of 44 spaces along both sides
Campbell Road, between Barwon Park Road and Burrows Road	Loss of 111 spaces along both sides
Burrows Road, south-west of Campbell Road	Loss of 8 spaces along both sides
Burrows Road, north-east of Campbell Road	Loss of 15 spaces along both sides
Euston Road, north of Sydney Park Road intersection	Loss of 24 spaces along both sides
Huntley Street, east of Euston Road	Loss of 28 spaces along both sides
Princess Highway	Loss of 18 spaces along both sides
May Street	Loss of 38 spaces along both sides
Unwins Bridge Road	Loss of 33 spaces along both sides
Brown Street	Possible loss of up to 6 spaces during integration / tie-in works
Florence Street	Possible loss of up to 6 spaces during integration / tie-in works
St Peters Street	Possible loss of up to 6 spaces during integration / tie-in works
Gardeners Road, between Kent Road and cul-de-sac of Gardeners Road	Loss of 47 on-street spaces
Bourke Road, north of Bourke Street / Gardeners Road intersection	Loss of 16 off-street spaces

7. Traffic and Construction Staging

7.1. Western Surface Works Traffic Staging – M5 Motorway (Drawings in Appendix I)

The Western Surface Works traffic staging is split into four stages to construct the new carriageways, bypass roads, associated temporary and establishment works and tunnel portals.

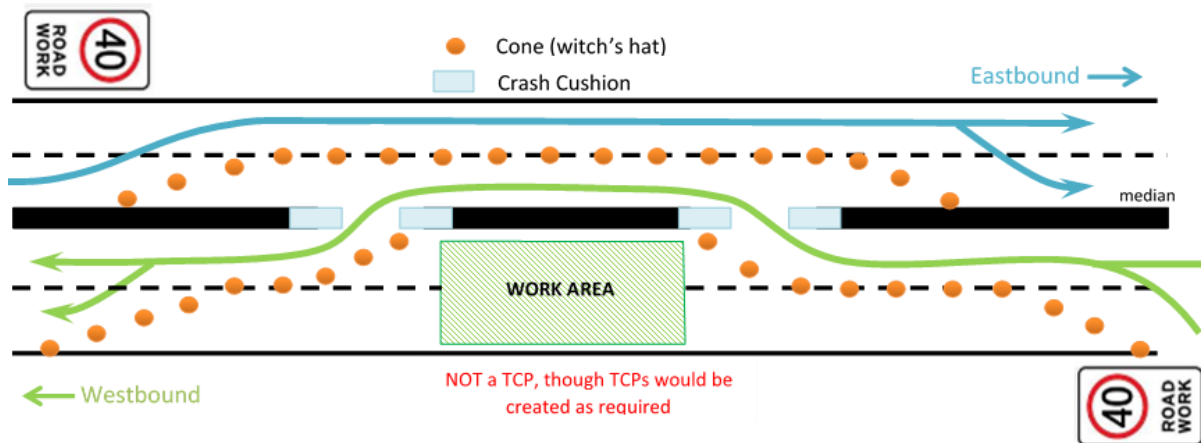
All construction will occur behind existing or temporary (installed by CDS-JV) road safety barrier systems (long term TM) or within a full carriageway closure under contra-flow (short term TM).

Contra-flow and Crossover Points

Traffic management for each stage involves short term TM to establish the long term TM, e.g. contra flow (short term TM) installed to allow the installation of barriers and line marking (long term TM).

To create a safe working environment contra-flow are one option proposed at night to isolate a carriageway while maintaining one lane in each direction at 40km/hr; achieved through short term TM, TCPs and crossover points. Where contra-flow traffic management is proposed, a detailed discussion with TMC and the Motorway Operator would be required prior to this option being considered for approval.

Figure 9: Example of contra-flow operation



The stages are described below, with drawings in Appendix I.

Stage 1

- Traffic to remain on existing M5 alignment
- Temporary road safety barriers installed 1m (min 0.9m) from toe of existing road safety barrier; clearances and lane widths as per AS1742.3 would be maintained
- Critical construction items (to allow switch to Stage 2)
 - Bridge at Kindilan Underpass
 - New (final) EB and WB carriageways
 - Existing EB Type 'F' road safety barriers removed
 - Existing guardrail adjacent to stopping bay removed

Stage 2

- WB traffic to remain on existing M5 WB alignment
- EB traffic to switch to new (final) EB carriageway
- Critical construction items (to allow switch to Stage 3)
 - Removal of existing M5 median
 - Construction and tie-in of new M5 median barriers to existing median barriers

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Stage 3

- EB traffic to remain on new EB alignment
- WB traffic to switch to new WB alignment
- Construction to continue behind road safety barrier

Stage 4

- Finishing Works e.g. Final asphalt and line marking.

7.2. New Tolling Infrastructure

The installation of tolling infrastructure (gantries) occurs during the construction period but the majority of gantries are outside the Western Surface construction area as outlined in Table 14. The gantries do not require specific staging as they will be installed using lane and ramp closures (with relevant approvals). Temporary road safety barriers may be installed, in the shoulder (left or median), at some locations to allow for trenching and cable installation.

Table 14: Location of New Tolling Infrastructure

Tolling Point	Location
TP1*	Mainline for M5 at King Georges Rd (within Western Surface Works)
TP1A	M5 Eastbound On-ramp from King Georges Rd
TP1B	M5 Westbound Off-ramp to King Georges Rd
TP2	M5 Eastbound On-ramp from Kingsgrove Rd
TP3	M5 Westbound Off-ramp to Kingsgrove Rd
TP4	M5 Eastbound Off-ramp to Bexley Rd
TP5	M5 Westbound On-ramp from Bexley Rd
TP6	M5 Eastbound Off-ramp to Princes Highway
TP7	M5 Eastbound Off-ramp to Marsh St
TP8	M5 Westbound On-ramp from Marsh St
TP9	Mainline for M5 at Marsh St
TP10A*	M5 Eastbound Off-ramp (within St. Peters Interchange/Northern Ramps Area)
TP10B*	M5 Westbound On-ramp (within St. Peters Interchange/Northern Ramps Area)
TP11	M5 Eastbound On-ramp from Marsh St
TP12	M5 Westbound Off-ramp to Marsh St

* Tolling infrastructure constructed within a construction site

7.3. Local Roads Upgrades

Traffic staging for the local road upgrades is divided into three main stages with additional Works at intersections to allow for widening of local roads and intersections, construction of new roads and shared paths, construction of new signalised intersections and the relocation of utilities.

The detailed local road and intersection traffic staging is in Appendix H with an overview below:

Stage 1

- Traffic to remain on existing (local) road alignment

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- Temporary road safety barriers installed using short term traffic control; clearances and lane widths as per AS1742.3
- Construction works occur behind road safety barriers. Occasional short term traffic control to assist works, e.g. deliveries or line marking

Stage 2

- Temporary road safety barriers relocated using short term traffic control; clearances and lane widths as per AS1742.3
- Traffic laterally shifted (switched) to newly created road pavement
- Construction works occur behind road safety barriers. Occasional short term traffic control to assist works, e.g. deliveries or line marking

Stage 3

- Finishing works, e.g. mill and re-sheet, landscaping, minor island and median construction completed using short term traffic control

Intersection Stages (roundabout and signals)

Intersections at Euston Rd, Sydney Park Rd and Huntley St will change from roundabouts to signals.

Signalised intersections at Campbell St, May St, Unwins Bridge Rd, Bedwin St and Campbell St, Princes Hwy and Campbell Rd will be upgraded.

A new signalised intersection will be constructed at Campbell Rd and Euston Rd.

All intersection work will have staging separate to but linked with the three main stages listed above. This is detailed in Appendix H with an overview below:

- Traffic remains on existing (local) road alignment, while work occurs offline
- Temporary road safety barriers installed short term traffic control; clearances and lane widths as per AS1742.3
- Traffic is laterally shifted (switched) to new road pavement (as it is completed), to ensure the intersections remain operational. Lane narrowing will occur where widths allow

Intersection Stages (NOT roundabout or signalised)

Brown St, Florence St, St Peters St and Church St that intersect with Campbell St and Burrows Rd that intersects with Campbell St and Huntley St will be altered as part of the upgrade work but will not become signalised once complete. The staging for these intersections (Appendix H) forms part of the staging but two methods will be used within the staging, to complete the works:

- Close half the road (maintain existing flows) and narrow lanes (where widths allow)

and/or;

- Temporary, long term, road closures. This may occur at the Brown St intersection with Campbell St and the Florence St intersection with Campbell St; both have existing alternative access to Unwins Bridge Rd and the Princes Highway.

Pedestrian and cyclist access will be maintained but not always along an existing alignment or path.

Existing parking restrictions will be maintained where possible but to allow construction some parking will be removed and/or relocated. A temporary car park may be constructed on the Sydney Park (western) side of Euston Rd.

The majority of this Work will occur behind temporary road safety barrier systems or under short term traffic management which may include overnight (one shift) road closures, alternate flow (stop/slow), lane closures and mobile works.

8. Traffic and Transport Management Plan (TTMP)

8.1. SWTC C.5 – Traffic and Transport Management Responsibilities During the Project Company's Work

SWTC Appendix C.1 Project Plan Requirements Section 11 Construction Traffic and Access Plan Part (f) requires this CTAP to include the Traffic and Transport Management Plan (TTMP) as per the (minimum) requirements listed in SWTC Appendix C.5 – Traffic and Transport Management Requirements for the Project.

8.2. Part 1 - Introduction

CDS will comply with the requirements of SWTC Appendix C.5 in relation to:

- RMS's Management and Control Responsibilities
- The Project Company's (CDS-JV) Responsibilities
- Management of the Road Network and Traffic Systems by the Project Company (CDS-JV)

8.3. Part 2 - Requirements for Infrastructure, Systems, Facilities, Services and Resources to manage the Road Network and traffic Systems

CDS will comply with the requirements of SWTC Appendix C.5 in relation to:

- Overall Requirements
- Specific Requirements
- Traffic and Transport Management Plan for the Project Company's (CDS-JV) Work
- Traffic and Transport Communication
- Traffic and Transport Models
- Traffic Operations and Incident Management
- Driver Information, Temporary Works and Traffic Infrastructure
- Road Occupancy Constraints and Licences
- Facilities for Road Based Public Transport
- Cyclist and Pedestrian Facilities
- Project Company's Traffic and Transport Personnel
- Reporting on Traffic and Transport Management

8.4. Road Occupancy Licences (ROLs) and Inspections

An ROL is a licence granted by TMC to occupy a portion of the road network, e.g. one lane of two for a set time over a set number of days. CDS-JV would obtain the necessary ROLs from TMC, as per TMC requirements and in line with SWTC Appendix C.4, prior to conducting any short term works on roads.

The three specific areas that may require approval, for short term traffic control, would include:

- Temporary traffic control devices.

The road authorities responsible for roads affected by the Project include Local Councils, TMC and RMS. CDS-JV would liaise with these authorities and relevant stakeholders (if required) during construction.

CDS-JV acknowledges that a Road Occupancy Licence (ROL) scheme applies on all state roads and some regional roads and understands the benefits of managing the cumulative impact of delays at

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separate and multiple work sites. TMC would be responsible for advising of conflicts with ROL approvals given to other Projects, e.g. King Georges Rd/M5 Intersection Works.

Consequently, except in the case of an emergency, or when directed by Police or Emergency Services, CDS-JV would obtain an ROL for traffic management on state and regional roads prior to the commencement of any short term traffic control (works) which:

- Slows, stops or otherwise delays traffic
- Diverts traffic from its normal course along the road carriageway, including lane closures, turning restrictions, detours and diversions, or
- Occupies any portion of a local road that is normally available as a trafficable lane

Obtaining an ROL and/or SZA approval for, short term works, on state and regional roads would follow the existing TMC process. However, if an ROL is required on a local road (road controlled by a Local Council) an ROL application process would need to be agreed with the Local Council. The ROL would be sent direct to TMC (for information) with a concurrent application sent to the relevant Council.

CDS-JV acknowledges that all road occupancies, despite the hours of operation stated in Section 1, would be subject to the specific period of operation stated on the approved licence and conditions on obtaining the other necessary approvals.

The ROL Application must be made on-line, through the OPLINC system, with the TMC, who have the responsibility for processing and approving ROLs. The TMC generally requires 10 working days to process the application and would either grant or reject application within this period. Minor changes to an ROL application (to obtain approval) should also occur within the 10 day period. It should be noted the road occupancy requests must comply with the various road safety and traffic management principles, objectives and targets outlined in this CTAP.

To obtain extensions, CDS-JV would be required to re-submit, on-line, a completed ROL Application Form (to Council in the case of Local Roads) with a copy of the original TCP, quoting the previous ROL number. If the original lane closure and road occupancy submission is to be altered or changed, (e.g. change to times, TCP or proposed occupancy, work type etc.), a new ROL submission would be prepared.

It is the responsibility of CDS-JV to ensure the validity of each approved lane closure and road occupancy, thus regular monitoring of approval expiry dates is essential. The Traffic Manager would maintain a database, which would contain details of road occupancy approvals to assist with this process.

Generally, TMC would apply conditions to the approvals, which may include:

- Maximum traffic stoppage times and maximum queue lengths
- Maximum travel time delays
- Measures to provide information to road users
- Records detailing the date and time of the road occupancy, and the location of all signs, and any other relevant information associated with the traffic control, must be kept.

TMC has the power to revoke an ROL at any time due to unforeseen volumes or other network performance issues, not just for breaches of associated conditions.

Generally, in accordance with TMC's requirements, the responsibility for implementation, coordination, and compliance with the lane closure and road occupancy approvals remains with CDS-JV and specifically, the Traffic Team and Construction Team. TMC's granting of the approval does not:

- Constitute approval by TMC or RMS of any actions that relate to traffic safety, occupational health and safety, or environmental issues and management
- Relieve CDS-JV or any person of their responsibility for compliance with legislation, regulations, or established operational procedures, or

- Change any management accountability or responsibility

Long term traffic control, e.g. lateral shift does not usually require an ROL and would be subject to discussions with TMC, RMS, Local Council (as required) and TTLG, it may require a TMP

Frequency of inspections of both short term and long term Traffic Control Plans supported by an approved ROL shall be in accordance with RMS Traffic Control at Worksites manual Section 6 and Appendix E

8.5. Apply Roadwork Speed Limits

Temporary roadwork speed limits, short and long term, are one of many traffic controls that would be implemented to manage the speed of traffic approaching and passing through and/or past the work sites.

CDS-JV acknowledges that roadwork speed zones must be logical and credible, as well as enforceable. When considering the use of a roadwork speed zone, CDS-JV would adopt the principles outlined in SWTC Appendix C.4 – A Section 6.1 as well as AS 1742.3. AS 1742.3 states that roadwork speed zones must:

- Only be used where they are self-enforcing or would be enforced
- Not be used alone but with other traffic control signs and devices
- Not be used in place of more effective traffic controls
- Only be used while road work is in progress or where lower standard road conditions exist, and
- Meet clearance and lane width requirements of Australian Standard 1742.3.

8.5.1. Speed Zone Conditions

Generally, the TMC or RMS would apply conditions to speed limit authorisations, and has the power to revoke an approval at any time for breaches of the conditions.

The typical conditions include, but not limited to:

- A copy of the SZA must be made available to the local NSW Police Highway Patrol representative, and road authority accordingly
- The temporary roadwork speed zone must be installed in compliance with conditions, notes, applicable dates and locations stipulated in SZA
- Specific measures required to manage adjacent speed zones, or potential conflicts with other temporary speed zones at construction sites in the immediate area
- All temporary roadwork speed limits must be installed as per the TCP and operated in accordance with the TMC/RMS requirements
- Similar to all regulatory signs, the speed limit signs are to be properly erected, and any contradictory signs or road markings are to be removed or covered, and
- Records detailing the date and time the speed limit is in operation, the speed limit displayed, and the location of all signs, and any other relevant information associated with the speed limit, must be kept.

8.5.2. Authorisation Limitations

Generally, in accordance with the TMC's or RMS's requirements, the responsibility for implementation, coordination, and compliance of the speed zone remains with CDS-JV. The granting of the approval does not:

- Constitute approval by the TMC of any actions that relate to traffic safety, occupational health and safety, or environmental issues and management

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- Relieve the Project or any person of their responsibility for compliance with legislation, regulations, or established operational procedures, or
- Change any management accountability or responsibility.

8.6. Long Term Reduced Speed Zones

A long term reduced speed zone to 80km/hr is planned for Western Surface Works between Bexley Road and King Georges Road in both directions on the M5 Motorway to provide a safe road and working environment. CDS-JV would reduce the existing long term speed limits, in accordance with AS1742.3, RMS TCAWS Section 8.2 and SZA.

CDS-JV may also implement a strategy to reduce the existing 50km/h speed limits to 40km/h on some local roads (where works occur), if potential hazards, additional conflict points, construction vehicle movements and/or relocation of pedestrian paths require speeds to be reduced.

Australian Standard 1742.3 Section 4.13.3 and 4.13.4 sets specific requirements for lane widths and clearances to road safety barriers at certain speeds. CDS-JV will adhere to this standard, as shown by the cross section in Figure 10.

Figure 10: Shoulder and traffic lane width from G10 requirement

Speed limit	Barrier width	Shoulder width	Traffic lane width
At 40km/h or less	600mm	300	3.0m
At 41 – 60km/hr	600mm	300	3.0m
At 61 – 80km/hr	600mm	500	3.2m

Note: any conflicts between the Deed, SWTC and Australian Standard 1742.3 in relation to the above will be referred to SMC, TMC and/or RMS for a direction.

8.6.1. Long Term SZA Submission Procedure

For works that require a long term SZA (80km/h for the life of the works), approval is obtained from RMS's Speed Management Group, not the TMC. The SZA Application and any relevant drawings or TCPs will be forwarded to the RMS representative for the Project who forwards the application to the Speed Management Group. The Speed Management Group generally requires at least 10 working days to process the application and would either grant or reject application within this period.

There are Variable Speed Limit Signs installed on the M5 Motorway. As these signs can be changed at any time, the Motorway Operator would be fully involved in the installation and operation of the long term speed zone.

8.7. Short Term Reduced Speed Zones

To provide a safe working environment during short term works, 40km/hr speed zones would be installed, in accordance with AS1742.3, RMS TCAWS and a ROL/SZA approval, e.g. contra-flow or lane closures.

Although in most situations temporary concrete safety barriers would be installed to isolate work areas, CDS-JV may apply reduced speed zones where there is a high concentration of workers, whether barriers are installed or not, for e.g. local road works.

To reinforce reduced speed zones CDS-JV in conjunction with RMS and TMC would conduct regular reviews of the speed limit signage and if deemed necessary consult with the NSW Police

representative to obtain enhanced enforcement of the roadwork speed zones, particularly during working hours.

8.7.1. Short term SZA Submission Procedure

Guidance for applicants is provided in the Road Occupancy Manual issued by the TMC. The manual contains a number of explanatory notes, checklists, and application forms. The documents applicable to this Project are the TMC's online system OPLINC.

The Traffic Engineer would process the submission to the TMC in accordance with the ROL (SZA) process flow chart.

The SZA Application must be forwarded to the TMC as it has the responsibility for processing and approving an SZA. The TMC generally requires at least 10 working days to process the application and would either grant or reject application within this period.

CDS-JV accepts it would be responsible for the management of records associated with the speed zone in accordance with Section 8.2.6 of the RMS's TCAWs Manual.

8.7.2. Extensions to period of operation, long and short term

To obtain extensions, CDS-JV would be required to re-submit a SZA submission, to the relevant group. If there are no amendments, other than dates, to the original submission, the CDS-JV would only be required to submit a completed SZA Application with a copy of the original TCP, quoting the previous SZA number.

If an original SZA submission is amended (e.g. change to a time, a TCP, a location or speed reduction etc.) a new SZA submission would be prepared and submitted.

It is the responsibility of CDS-JV to ensure the validity of each approved speed limit, thus regular monitoring of the expiry dates is essential. CDS-JV would maintain a database which would contain details of speed limit consents to assist with this process.

8.8. Use of Traffic Control Devices

Traffic control devices are all signs, traffic signals, road markings, pavement markers, traffic islands, and/or other devices placed or erected to regulate, inform, warn and/or guide road users. The function of a traffic control device is to promote orderly traffic flow, regulate traffic (assign right of way, and indicate regulations in force), warn road users of hazards or regulatory controls ahead, (in particular they also warn of temporary hazards that could endanger road users or workers at roadwork sites), and guide traffic (e.g. guide signs to inform road users of directions to destinations, identify routes, and pavement markings to guide the travel path of vehicles).

Signs and road markings are 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, and guide signs give advance guidance and advice of routes and destinations which assist all drivers to make clear, early decisions.

The aim of sign posting is to:

- Warn and inform road users of conditions ahead
- Guide and control road users to safely negotiate the road ahead
- Ensure the signs and their structures are not a hazard in themselves
- Provide drivers with sufficient information to ensure no surprises along their path of travel, and
- To provide data in a controlled and consistent way to avoid information overload.

CDS-JV recognises the value of providing road users with timely, clear and consistent messages and would ensure all signs, road markings and devices installed during the construction of the Project are:

- Assessed for use in accordance with the appropriate RMS guidelines and/or Australian Standard/s
- Manufactured and installed in accordance with the requirements of the Australian Standard/s
- Installed in accordance with the relevant guides and standards
- Not contradictory to existing signs or markings
- When no longer required, covered or removed, and
- Regularly maintained and repaired / replaced when damaged or lose reflectivity.

All sign posting installed throughout the Project would comply with the requirements outlined in the RMS's Traffic Control at Worksites Manual, the RMS's Delineation Manual, AUSTRROADS Guide to Traffic Engineering Practice, Part 8 – Traffic Control Devices and the relevant Parts of Australian Standard 1742.

8.9. Project Specific Signage Requirements

In addition, to the sign posting requirements stipulated in the RMS's TCAWs manual and the Australian Standards, CDS-JV would be applying the following sign posting parameters:

- Where possible, duplicate signs would be implemented for all short-term TCPs
- The minimum size of signs used on the Project would be Type B except speeds signs on the M5 which would be Type C
- 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, and
- All non-standard road and directional signs (not gate or Project specific signs) would be submitted to RMS for design and approval. It is not expected there would be a large number of non-standard signs required, regardless RMS should provide a sign design, for CDS-JV to manufacture within 5 working days.

CDS-JV 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.

8.9.1. Project Identification Signs

Project identification signs will be installed to provide details of the Project to the public and acknowledge the Government's initiative. The Project identification signage location and design shall be as approved by RMS and in accordance with any requirements of the SWTC.

These signs provide information to the public on:

- A Community contact telephone numbers;
- B Funding and Government acknowledgement;
- C Graphical representation of the Project route relative to the surrounding network, and
- D Advice to road users on minor delays during construction

8.9.2. Use of Variable Message Signs

During construction, CDS-JV will utilise portable and permanent VMS in accordance with SWTC Appendix C.4 – A Section 6.2 to enhance advanced warning sign posting and provide 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.

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8.9.3. Permanent VMS

The Traffic Manager would co-ordinate requests to TMC to set VMS with TMC 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 priority to incident responses messages and that the decision to display the appropriate messages remains with TMC.

As TMC uses permanent VMS to manage the road network the location of viable VMS would vary but the most useful VMS (both directions) are likely to be located on:

- M5 East Main carriageway (08 in no.)
- General Holmes Drive (01 in no.)
- Kingsgrove Road (02 in no.)
- Marsh St (02 in no.)
- West Botany St (01 in no.)
- M5 South west Motorway (01 in no.)

It is understood RMS has a VMS upgrade program in progress and that these locations may change.

8.9.4. Portable (trailer mounted) VMS

The Traffic Manager would co-ordinate and deploys portable VMS (senior and junior boards) 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. Where applicable, VMS devices utilised on the Project would comply with RMS's specifications.

8.9.5. Utilise Flashing Arrow Signs

Flashing Arrow Signs (FAS) are a main component of most TCPs, in particular for use when closing traffic lanes, and conducting mobile traffic control operations.

When stipulated by the TCP, CDS-JV would implement FAS in accordance with Section 3.12 of the AS 1742.3 and Appendix 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 subcontractor traffic control team member.

8.9.6. Utilise Portable Traffic Signals

There is currently no need to utilise portable traffic signals for any long term works on this Project, but they may be used to provide a safer alternate flow operations (ie no human traffic controller within proximity of traffic). Signals used for stop/slow would be manual controlled (human pushes a button)

If stipulated by a TCP, CDS-JV would implement the portable traffic signals in accordance with Section 3.5.4 of AS 1742.3, and the RMS's TCAWs Manual TCP 43.

All portable traffic signals used would comply with the RMS's equipment specification PTS/3 and be operated by a trained subcontractor traffic control team member and monitored by the Traffic Team.

8.9.7. Utilise Fixed Traffic Signals

In some situations CDS-JV may utilise 'flashing yellow' at fixed traffic signals to allow Traffic Controllers to operate an intersection under manual (human) control, specifically contra-flow operations.

When stipulated by the TCP, CDS-JV would implement 'flashing yellow' in accordance with ROL approval and in conjunction with the TMC (as TMC must switch the lights to flashing yellow). Traffic signals may also be turned off during works but such a decision remains at the sole discretion and responsibility of the TMC.

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8.10. Traffic Control Plans (TCPs)

Traffic Control Plans (TCPs) will be developed to illustrate all temporary traffic arrangements, including the various traffic control signs, road markings and devices to be installed.

A TCP is a diagram showing signs and devices arranged to warn and inform traffic and guide it around, past, or if necessary through a work site or temporary hazard. TCPs are mainly used for short term work and all TCPs would be developed with the aim of:

- **Warning** drivers of changes to the usual road conditions,
- **Informing** drivers about changed conditions,
- **Guiding** drivers through the work site, and
- **Safety** for workers, motorists, pedestrians and cyclists.

8.10.1. Standard TCPs

Standard TCPs may be adopted directly from the RMS's TCAWs Manual. However, the standard TCPs would be modified to suit site conditions. Where modifications to the standard TCPs are necessary, these modifications would be shown clearly and recorded on a copy of the TCP by a suitably qualified person (RMS Red Card Holder).

Where possible, all TCPs would be prepared using computer software, which would provide a clear, concise, and consistent format. The aim is to avoid the use of deficient TCPs, remove the inconsistency of overlapping or adjoining TCPs, and give due consideration to the road design principles.

In addition to the specifications above, all unique TCP design parameters, created during the Project, would be tabled which would ensure these parameters are consistently applied Project wide.

8.10.2. Develop Site-Specific TCPs

Site specific TCPs, for both long and short-term works, will be designed in accordance with the principles and measures outlined in this CTAP, AS1742.3 - 2009 and RMS's Traffic Control at Worksites Manual (TCAWs) Version 4, examples of which are in 0D.

Long-term TCPs are temporary arrangements that would be in place for a period longer than 1 shift (a shift is approximately 10-12 hours). Likely TCPs for long-term works are: location of temporary safety barriers, construction access point signage and long road closures, e.g. over a public holiday weekend.

Short-term relates to a temporary arrangement that would be applied for 1 shift, and where normal operating conditions are reinstated after all temporary traffic management devices are removed from the road. Short-term TCPs would be installed as required to facilitate construction activities: installation of safety barriers, surveying and geotechnical activities, site deliveries, service investigations, maintenance activities, plant movements, haulage operations, building bridges and culverts, pedestrian or cyclist controls, installing portable traffic signals, removing and installing line marking.

8.10.3. Provide Safe Clearances to Work Area

Maintaining a safe environment for workers, during short term work, is critical. CDS-JV would follow the requirements specified in Section 3.6 of the RMS's TCAWs Manual and Section 4.2 of AS 1742.3 and they are outlined in Table 15. Long term clearances (to barriers) are detailed in Section 12.2.

Table 15: Work Area Clearances (and associated speed limit requirements)

Short Term - Minimum Clearance (from a trafficable lane to work)	Temporary Speed Limit
Within 1.2m	40 km/hr

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Short Term - Minimum Clearance (from a trafficable lane to work)	Temporary Speed Limit
Between 1.2m and 3m	60 km/hr
Between 3m to 6m	80 km/hr

The work area clearances stated in the above table are the absolute minimum requirements for short term work or work under traffic control. The majority of work areas would be long term, thus behind temporary road safety barriers or well within site.

The selection and installation of all temporary safety barriers for this Project would be in accordance with RMS's 'Safety Barrier Products Accepted for use on Classified Roads' document, the manufacturer's specifications and Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers.

8.10.4. Apply Checklist

CDS-JV would use a comprehensive checklist when reviewing Traffic Control Plans. It is based on considerations and factors stated within Australian Standard 1742.3 and RMS's Traffic Control at Worksite Manual.

8.10.5. Traffic Inspectors and Monitoring of Core and Precinct Roads

In Preparing a TCP, the person responsible would conduct an inspection with the aim of identifying the existing lane configurations, intersection treatments, traffic operations, traffic control signage, speed zone locations, side roads, alignment restrictions horizontal and vertical, private access points, bus stops, cycle / pedestrian facilities, bridge structures, roadside furniture, and any feature that may affect the installation of the desired TCP.

The aim of the Traffic Control and Monitoring Inspections is to provide a safe environment for workers and road users, monitor compliance against the Traffic Control Plans and identify safety hazards in order to implement corrective solutions. This process details the type, frequency, responsibility and checklists for inspections.

Inspections of the temporary traffic controls (both short and long term) would be conducted during the construction stage, focusing on monitoring compliance against the TCP and identifying safety hazards, to enable implementation of corrective solutions.

The Traffic Manager would advise and assist with short and long term traffic control. The type, frequency and responsibility and frequency of inspections are summarised in Table 16.

All these inspections would be carried out in accordance with Australian Standard 1742.3 and RMS TCAWs.

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Table 16: Traffic control inspections

Inspection	Responsibility	Frequency
Pre-start Brief	CDS-JV Construction Foreman*	Before works start check approved TCPs, ROLs and SZAs are onsite
Short term traffic control inspections (day and night)	Traffic Engineer	Each site, once per fortnight (nights included if nights works are planned)
Long term traffic control inspections (day and night)	Traffic Engineer	Each site, at least once per fortnight

*Refers to the foreman that is responsible for the work activity

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

If issues, deficiencies and improvement opportunities are identified relevant to this CTAP, this CTAP would be amended as required by the Traffic Manager (or delegate).

8.11. Conduct Road Safety Audits (RSAs)

AUSTROADS 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 also conducted to assess the safety of existing roads and temporary traffic arrangements implemented for roadwork. These audits would be conducted in accordance with the AUSTROADS Road Safety Audit Guide and RMS Guidelines for Road Safety Audit Practices.

Exhibit A, Section 5.15 of the Scope of Works and Technical Criteria states CDS-JV must undertake a road safety audit "...during the design and construction..." as well as "immediately prior to opening any part of the Projects Works to traffic and where the Project Company's Work has an impact on any Local Areas...".

CDS-JV would organise external road safety audits to be undertaken, by two suitably qualified, road safety and traffic engineering auditors.

The lead auditor would have Road Safety Auditor Level 3 Certification, have undergone road safety audit training and received certification under the Public Works Engineering Australia Ltd (NSW Division) Accreditation Scheme. The other auditor would be, at least, highly experienced in traffic management.

The Traffic Manager would manage the Project Road Safety Audit Programme in coordination with the Quality Manager and in accordance with SWTC Exhibit A, Section 5.15. The responsibility for and frequency of audits is summarised in Table 17.

Table 17: Traffic Control Road Safety Audits

Audit Type	Responsibility	Frequency
Temporary (long term) traffic arrangements	Traffic Manager to engage a qualified, independent auditor who is external to the Project	During a period of installation longer than 3 months
Final road alignment / new road works		Immediately prior to opening any part of the Projects Works to traffic (SWTC Exhibit A Section 5.15)

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

- Hold a commencement meeting between auditor(s) and Traffic Manager

- Review relevant documents (including design Plans, crash histories, 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 Traffic Manager , and
- Where necessary, the Construction Team programmes necessary actions to rectify deficiencies.

CTAPs, TMPs, TCPs or subordinate documentation is amended by the Traffic Manager. CDS-JV would also apply this methodology and provide feedback to any road safety audits that are conducted by TMC, RMS or other stakeholders.

If issues, deficiencies and improvement opportunities are identified relevant to this CTAP, this CTAP would be amended as required by the Traffic Manager (or delegate).

Copies of Road Safety Audits would be supplied to the TTLG and the Director General upon request.

8.12. Unplanned Incidents

This section describes how CDS-JV would support emergency service agencies and TMC in the management of emergencies / unplanned incidents on roadways on the core road network, and assist in restoration of normal traffic conditions.

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

- Motor vehicle accidents
- Grass, bush and building fires
- Environmental spills
- Terrorist attacks and bomb threats
- Construction type incidents
- Structural/catastrophic failures
- Police Operations
- Inclement weather conditions, including flooding and major storm events
- Anti-social behaviour

8.12.1. Construction Site Emergencies

The occurrence of unplanned incidents within the construction site may have negative impacts on the operation of the road network. CDS-JV Safety Team would develop area specific Emergency Response Plans, which would incorporate standard operating procedures for managing construction site emergencies / incidents. These Plans would:

- Establish and define CDS-JV's roles and emergency response procedures for dealing with different category of emergency arising from construction, traffic, environmental incidents
- Identify and define the roles and responsibilities of SMC Project personnel during emergencies and incidents
- Define RMS and emergency services roles and responsibilities in the event of an incident or emergency
- Outline the communication protocols and system/s

- Establish formal arrangements for the review and maintenance of the Plan.

8.12.2. Non-Construction Site Emergencies (surrounding road network)

Incidents that occur on the surrounding road network, not related to construction, can temporarily restrict construction activities. The management and response to unplanned incidents, on the surrounding road network, is the responsibility of CDS-JV in coordination with or under the direction of NSW Police Force and TMC as per Section 1.2, 1.3 and Section 2.1 of Appendix C.5, of the SWTC, with an aim to:

- Be responsible for the management of minor unplanned incidents along the core and precinct road network as described in Schedule C.5 – 1 of Appendix C5 of the SWTC (This schedule is yet to be provided to CDS-JV)
- Provide initial response to major unplanned incidents and emergencies along the core and precinct road network until an emergency services agency and/or RMS Oscar Patrols arrive on the scene.
- Collect road / traffic intelligence and pass on to the TTCR (Temporary Traffic Control Room) who will update the TMC;
- Implement traffic management arrangements either independently, or under the direction of the TTCR, TMC, TMC Traffic Commander or Emergency Services;
- Provide assistance to motorists along the core and precinct road network;
- Assist in the clearing of the road to minimise traffic effects;

8.13. Incident Management Plan

The Project has an Incident Management Plan for Traffic on the core road network. This Plan will:

- Establish and define CDS-JV's role and list procedures for dealing with different categories of emergency
- Outline the O&M obligations under the Project Deed, SWTC and other relevant documents
- Identify and define the roles and responsibilities of SMC Project personnel during incidents
- Define RMS and emergency services roles and responsibilities in the event of an incident
- Outline the communication protocols and system/s
- List basic equipment required for the management of incidents
- Establish formal arrangements for the review and maintenance of the Plan

Incident response Plans, for the core and precinct road network, would be sub-Plans to the Incident Management Plan. They would be developed to manage with the three incident classifications:

- Minor – Requires a single response using the minimum human resources required to safely clear the incident and return to normal conditions
- Moderate – Requires a response requiring a combination of resources and / or plant and equipment to clear the incident.
- Major – The incident needs to be managed by Police and /or Emergency Services and reported through 000. The initial response can be activated by CDS-JV until Emergency Services attend and take command of the incident site.

The Incident management Plan for Traffic is a separate document being required to be approved by the TfNSW Transport Management Centre – Refer to approved plan M5N-HS-PLN-PWD-0004 Revision 05, 05/07/2016. This plan was approved by TMC 05 July 2016.

Table 18: Likely Incident Response Plans (IRPs)

Plan no.	Incident description
IRP-01	Minor Motor Vehicle Accident
IRP-02	Major Motor Vehicle Accident
IRP-03	Stationary or broken down vehicle
IRP-04	Construction material spillage in a trafficable lane
IRP-05	Stray animal
IRP-06	Slippery road / pavement surface
IRP-07	Pavement failure in prescribed maintenance area
IRP-08	Utility failure, impacting on normal traffic conditions, due to construction activity
IRP-09	Significant traffic congestion as a result of Project works (e.g. ROL overrun)
IRP-10	Towing a vehicle

8.14. Temporary Traffic Control Room

CDS-JV will meet the requirements of Section 2.6.2 of Appendix C.5 in the SWTC for the operation of a Temporary Traffic Control Room (TTCR).

The TTCR will be located within close proximity to the core and precinct road network to provide swift response times to incidents. It will operate 24 hours a day, seven days week, 52 weeks of the year for the life of the Project.

The room will be staffed by a least one experienced control room operator at all times. This operator will have radio, telephone and CCTV capabilities to monitor the core and precinct road network and action any incidents that may occur.

There will be UHF radio contact with the Incident Response Teams at all times.

8.15. Incident Response Teams

The incident response teams will consist of a two person team on a 24hr, 7 day roster. They would have RMS Traffic Controllers (Blue) and Apply Traffic Control Plans (Yellow) certifications. Incident response capability shall also include provisions for on-call vehicle towing to ensure incidents are cleared within 40 minutes.

Team processes would be developed during the design phase of the Project. Each team is likely to carry the following in a small truck:

- Type B Flashing Arrow Board
- Stop / Slow bats
- 700mm Traffic Cones (30 minimum)
- Signs to implement RMS TCPs 83, 101 and 93
- Dust Proof Tool Box
- Laminated TCP's in A3
- UHF portable radio (with car kit)
- Twin Flashing / rotating beacons
- Barrier Boards and legs
- Tools – shovels, brooms, etc.
- Small spill kit

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- Digital Camera
- Fire extinguisher
- Orange strobe lights for front and rear
- Reverse camera
- Reverse “quacker”
- Flow chart and contacts list
- Folder for documentation

8.16. Manage Special and Major Events

The TMC defines a special / major event (in traffic management terms) as any planned activity that is wholly or partially conducted on a road, requires multiple agency involvement, requires special traffic management arrangements and may involve large numbers of participants and / or spectators.

In 2003, the NSW Government published “The Guide to Traffic and Transport Management for Special Events”, which provides a comprehensive guide for organising, managing and controlling special events. This guide was developed in consultation with representative from: the NSW Premier’s Department; TMC; RMS; Local Government Association; numerous NSW Local Councils; Police and members of the events industry.

TMC has the ultimate responsibility for road safety and traffic management of the road network. TMC is responsible for the assessment and coordination of special events, which TMC undertakes in consultation with event organisers, NSW Police and Local Councils.

8.16.1. Role of CDS-JV

CDS-JV (as per Section 7.4 of the SWTC) will openly and actively participate in regular forums, communicate and cooperate in the management process with the TMC, event organisers and relevant Project members and clients as required.

A list of Special / major events occurring near Works will be supplied and liaison with the relevant organisers undertaken by the Project’s Community Team. The main forum for communicating with stakeholders shall remain to be the TTLG/

8.16.2. Classes of Special Events

Special / major events are generally categorised based on the potential disruption to traffic and transport systems, and the disruption to the non-event community. The four broad categories are generally as follows:

Major – is an event that impacts major traffic and transport systems and there is significant disruption to non-event community. For example: an event that affects a principal transport route, or one that reduces the capacity of the main highway through a country town.

Minor – is an event that impacts local traffic and transport systems and there is low scale disruption to the non-event community. For example: an event that blocks off the main street of a town or shopping centre but does not impact a principal transport route or a highway.

Local – is an event with minimal impact on roads and negligible impact on the non-event community. For example: an on-street neighbourhood Christmas party.

Police Controlled – is an event that is conducted entirely under Police control (but is not a protest or demonstration). For example: a small march conducted with a Police escort.

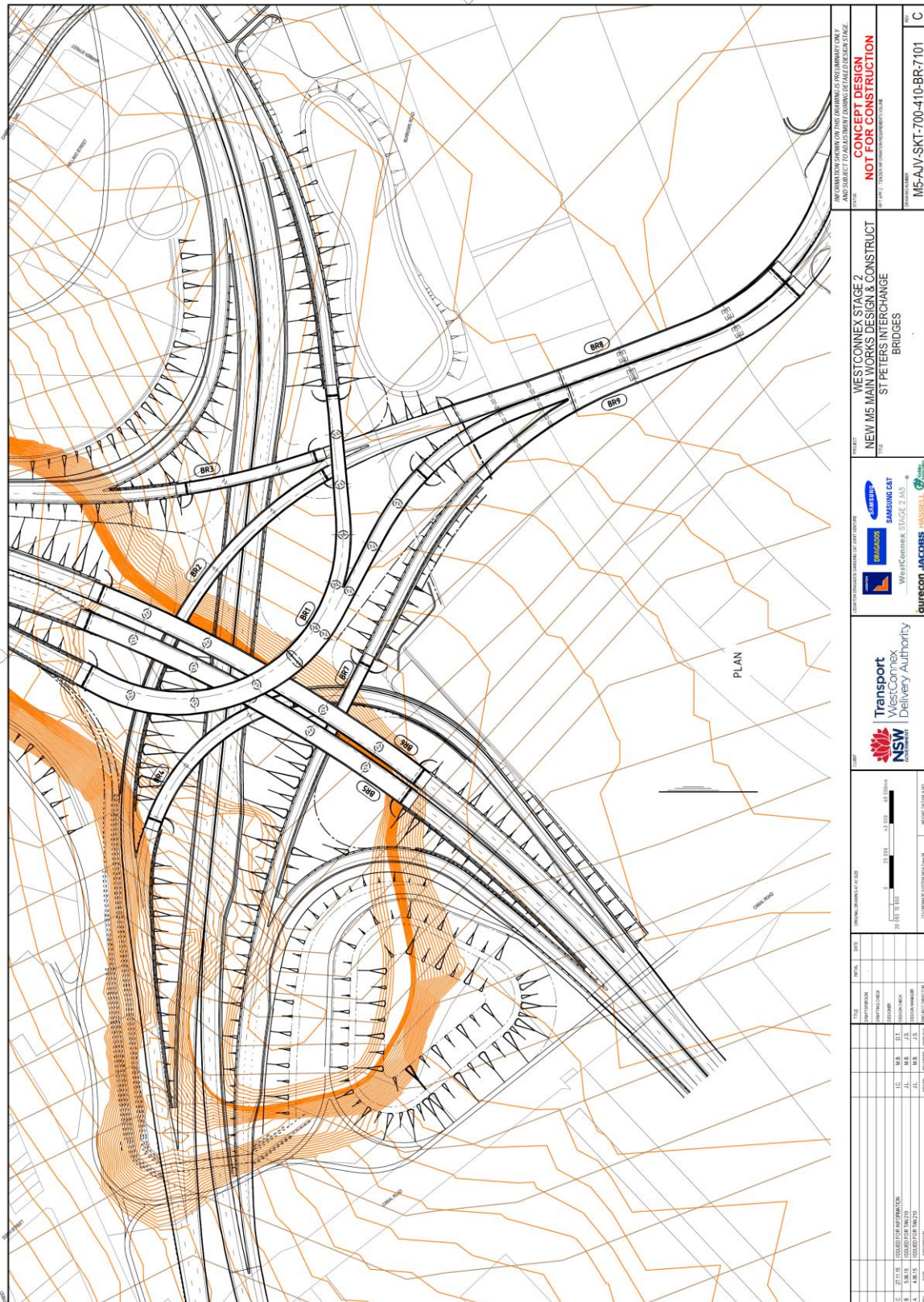
8.17. Provision for Maintenance

The maintenance work on roads in Local Areas during the CDS’s Work includes the identification, planning, programming, design, scheduling and delivery of repair works. CDS shall perform the maintenance work in accordance with the SWTC Specification contained in Appendix C.6 – “Local

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Road Maintenance". This SWTC Appendix C.6 describes the maintenance intervention and repair standards for roads in local areas during CDS's work.

8.18. Numerical Identification of Structures



9. Consultation and Communication Strategy

9.1. Stakeholder Engagement Strategy

The Project's engagement strategy aims to inform and engage community and stakeholders in a constructive, transparent and fair process. Comprehensive details of CDS-JV's commitment to community consultation can be obtained from the Community Involvement Plan (CIP).

The CIP presents the strategy's objectives, guiding principles, delivery framework, issues management approach and the communication tools and protocols that would support the strategy's implementation. The CIP will address the requirements of the Project Approval conditions for community, business and stakeholder consultation, while the Community Communication Strategy (CCS) would incorporate site specific area sub-Plans and a Project wide Business Management Plan (BMP).

CDS-JV recognises a critical first step is to identify the audience and relevant stakeholders including traffic and transport stakeholders. A list of identified stakeholder groups is provided in the CIP and the Project stakeholder and communications database (Consultation Manager). The key traffic and transport stakeholders identified for this Project are listed in Table 19.

Table 19: Project Traffic Stakeholders

Stakeholders and Target Audiences	Interest
Affected Landholders and Community Stakeholders	
See CIP and Consultation Manager for complete list of landholders	High
Local Government Authorities	
City of Sydney Council	High
Inner West Council	High
City of Botany Council	Low
Georges River City Council	High
Canterbury-Bankstown Council	High
Rockdale Council	High
State Government	
Political Representatives – State MPs	High
Road User Groups and Service Providers	
Private road users	High
Public transport (bus) users	High
NRMA	Low
Bicycle NSW	Medium
Transport NSW	High
M5 Motorway Operator	High
M5 East Motorway Operator	High
Sydney Airport Corporation Limited (SACL)	Medium
Sydney Ports Corporation (SPC)	Medium
Public Transport Providers (Sydney Buses / Punchbowl Buses)	High
Bus and Coach Association	Medium
NSW Taxi Council	Low

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Stakeholders and Target Audiences	Interest
Freight and Logistics industry	Medium
Australian Trucking Association	Medium
Australian Logistics Council	Medium
Quarry industry	Low
Construction Industry	Low
Emergency Services – Police, Fire, Rural Fire, Ambulance, SES	High
Utility Providers	Medium
Transport Workers Union	Low
M5SW Motorway Operator - Interlink	High
M5E Operator & Maintainer - Ventia	High
RMS Stewardship Maintenance Contractor –Ventia Boral Amey	High

The Traffic Manager would regularly consult with relevant stakeholders via the Traffic and Transport Liaison Group (TTLG) which has been established by the Project team.

9.2. Consultation on this plan

The draft CTAMP was provided to the relevant councils, emergency services, road user groups and pedestrian and bicycle user groups on 3 May 2016 for consultation, in accordance with the conditions of approval. The Councils and stakeholders that have been consulted are provided below.

Councils:

- City of Sydney
- Marrickville (now Inner West Council)
- City of Botany Bay
- Rockdale
- Canterbury

Other stakeholders:

- Office of Environment and Heritage (OEH)
- Department of Primary Industries Water (DPI Water)
- NSW Police
- NSW State Emergency Service
- NSW Fire and Rescue
- NSW Ambulance
- NRMA
- Motorcycle Council of Australia
- Transport Workers Union
- Action for Public Transport (ATP NSW) Inc
- Pedestrian Council of Australia
- Bicycle NSW
- Bike Sydney
- BikEast Inc
- Bike Marrickville
- Bike South West
- Bikes Botany Bay
- Cyclists against WestCONnex
- Sydney Airport

A summary of the key issues raised by Councils and stakeholders and how they were addressed in the CTAMP is presented in Appendix F.

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9.3. Notification to Emergency Services

Emergency service agencies provide a vital service to the community, and they need to have up to date information about changed traffic conditions and potential delays they may experience throughout the road network.

The Traffic Manager would ensure all emergency service agencies are regularly consulted about proposed changed traffic conditions, with the TTLG being the main forum for notification of major changes.

9.4. Dissemination of Information to the Community

The Traffic Manager in conjunction with the Communications Manager, TMC and RMS would disseminate changed traffic condition information as per Table 20. The Community Involvement Plan governs all Project communications.

Table 20: Minimum requirements for the dissemination of Information to the community

Tool	Purpose	Frequency
Static signposting	Information signage at the location of the traffic change to give advice to road users and pedestrians (including vulnerable pedestrians) on duration of change of alternative paths. Temporary signage to indicate changes to bus stops or pedestrian paths and crossings (as required)	At least 7 days prior to change.
Permanent and Portable Variable Message Signs (VMS)	Electronic variable message sign provides advanced notice to road users of major traffic changes	At least 7 days prior to change
Project website	Information about the construction activities would be placed on the website including information about traffic changes	As required
CDS-JV web page (linked to Project website)	Documents uploaded to the website include copies of advertisements, traffic alerts, notification letters and other public material related to the works	To coincide with distribution
Livetraffic.com (controlled by TMC)	Real time traffic information about construction impacts to motorists	For the whole of the Project
Australian Traffic Network – ATN (not under CDS-JV control)	Information about traffic changes/ detours advertised on radio	As required
Advertisements	Advertisements in local newspapers and radio stations prior to significant traffic changes, detours and traffic disruptions as required to comply with approvals	At least 7 days prior to change
Quarterly site-specific construction update newsletter	Information about traffic changes would be included in the monthly newsletter to be distributed to residents within a 500m radius of the station sites	Distributed monthly
Letterbox notifications	Notification letters to inform local residents and businesses affected by changes to road network and traffic conditions	At least 7 days prior to change
Social media updates (in development)	Site-specific social media pages would be updated daily and would be used to communicate targeted information including changes to traffic conditions	Daily

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Tool	Purpose	Frequency
Traffic alert email	Communication to transport authorities, operators and emergency services to advise of traffic changes including road or lane closures and detours	At least 7 days prior to change
Community information line (1800 number)	1800 number allows access to Project team during construction hours with message service after hours. Number to be publicised on all communication materials	N/A
Community email address	Allows communication with the Project team. Email address to be publicised on all communication materials	N/A

9.5. Training and Awareness

All construction personnel, sub-contractors and consultants will receive training and be informed of their personal environmental and community obligations during the inductions, toolbox talks and specific training.

All construction personnel would undergo a general Project induction prior to commencing work with the Project. This would include a traffic component to reinforce potential impacts and responsibilities relating to traffic management.

Ongoing toolbox talks would highlight the specific mitigation measures for activities being undertaken in each work area. These would include site-specific briefings for relevant personnel and would cover all measures outlined in the relevant SWMS and environmental sub-Plans.

9.6. Coordination of Information

A co-operative and co-ordinated approach between the Client, the TTLG, and the Traffic Manager would enable the public to receive timely and accurate information relating to the Works. In consultation with the TMC, the Traffic Manager and the Community Relations Team would develop protocols, procedures, processes and systems in accordance with mutually agreed objectives.

All information to be released to the community must be approved by SMC prior to its distribution or publication in accordance with the timeframes for review and approval as outlined in the Community Involvement Plan. SMC would be informed immediately of any changes to information previously provided to the public.

9.7. Traffic and Transport Liaison Group (TTLG)

CDS-JV will establish a Traffic and Transport Liaison Group (TTLG) for the entire New M5 Main Works. The Traffic Manager would chair the TTLG and would act as the authorised representative for the Project in matters related to traffic and transport. The Traffic Manager would participate in the group and provide the following information relating to the works to the group to enable the group to function in accordance with its Terms of Reference:

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

The Traffic Manager would attend and run all TTLG Meetings that are held, monthly, during the duration of the Project. In addition, a representative from the CDS-JV Communications Team may also attend TTLG meetings to discuss and provide input regarding:

- Community and other stakeholder concerns, comments or feedback
- Communication strategies and actions to be taken
- Cumulative impacts with other adjacent major Projects

If required relevant construction personnel would be available to attend TTLG to discuss any specific and/or technical matters that may arise. The TTLG is not a forum to obtain approval/s.

9.8. Traffic Coordination Group (TCG)

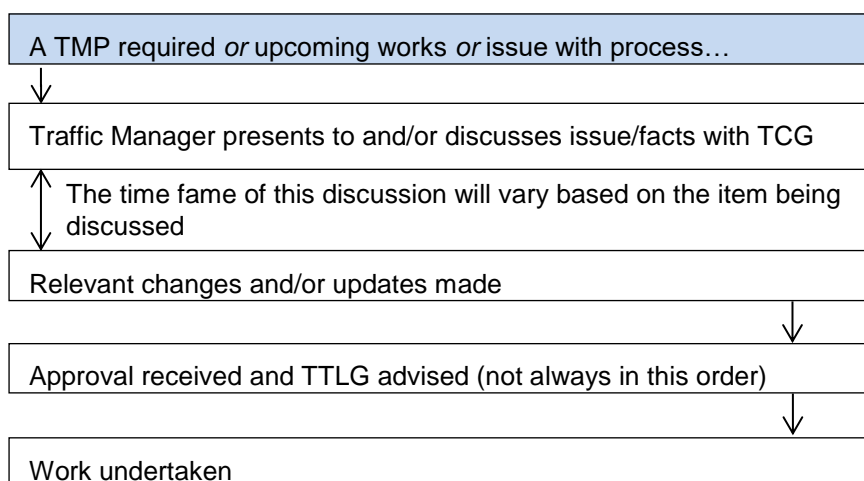
CDS-JV will establish a Traffic Co-ordination Group (TCG) for the Project, consisting of one representative from RMS, TMC, Motorway Operator and the CDS-JV Traffic Manager. This is an internal Project group, separate to the TTLG, created by CDS-JV to improve and enhance traffic and transport related communications between the stated stakeholders.

The Traffic Manager would chair the TCG and would act as the authorised representative for the Project in matters related to traffic and transport. Every fortnight (or at a time agreed by all) the Traffic Manager would present upcoming works, TMPs, road changes, process issues, conflicts between requirements and guides and out of the normal traffic changes for dissection, review and approval. It is the TCG meeting where all issues are discussed, accepted and/or agreed to. As required, the results of this meeting would be reported to the TTLG.

As required, relevant construction personnel, Communication Team members and/or Local Council representatives would be invited to attend a TCG meeting to discuss specific or technical matters that may arise; they would not be regular members. The TCG is the forum to dissect issues and obtain approval/s.

The general relationship between TTLG, TCG and obtaining approvals is outlined in Figure 11

Figure 11: TTLG, TCG and approvals relationship



9.9. Conduct Reporting

CDS would report to SMC and other stakeholders on all traffic and transport management issues as they relate to the Project work, including performance measured against specified targets and objectives (KPIs). The content of these reports would be as follows:

9.9.1. Monthly Reporting

CDS-JV would report to SMC on all traffic and transport management issues on the road networks and traffic and transport operations that relate to the Project works including performance measured against specified targets and objectives.

The traffic report would form part of the monthly report that would be submitted to SMC in accordance with the requirements of the Project Management Plan.

9.9.2. Weekly Forecast Schedule

CDS's Traffic Manager would provide a schedule of approved road occupancy licences on a weekly basis, running from Monday to Sunday. The forecast schedule would contain full details on locations and timing of all proposed road occupancies for the following week and be submitted by close of business each Thursday of the preceding week or on a day mutually agreeable to all.

9.9.3. Immediate Reporting of Major Incidents

The TCRO would contact the TMC regarding major unplanned incidents having a negative impact on the regular flow of traffic on the core and precinct road network. The TCRO would advise the Traffic Manager of major incidents who would then contact the Construction Manager, Community Manager and possibly the Project Director. Major incident categories include, but are not limited to:

- Unplanned motor vehicle accidents (after incident reporting would be as per the SWTC)
- Large impact to the regular operation of public vehicles, cyclists or pedestrians from construction traffic management, e.g. long delays in morning peak
- Breaches of any ROL conditions of approval resulting in delays

9.9.4. Reporting of Minor Incidents

The TCRO would contact the TMC regarding minor unplanned incidents having a negative impact of the regular flow of traffic on the core and precinct road network. The TCRO may advise the Traffic Manager. Minor incident categories include, but are not limited to:

- Breaches of any ROL conditions of approval not resulting in delays
- Vehicle breakdowns
- Reports of malfunctioning traffic signals
- Violation of any kerbside parking restrictions, e.g. clearways
- General traffic enquiries

9.10. Sensitive Receivers

Particular attention shall be provided to sensitive receivers such as but not limited to:

- Schools
- Child care centres
- Health facilities
- Mobility impaired road users

Specific provisions may be required to address construction impacts to sensitive users and will be assessed on a case by case basis through the community and environment teams to ensure potential impacts are mitigated.

Appendices

Appendix A: Applicable Specifications, Standards and Guides

- Project Design Report
- RMS QA Specification G10 – Control of Traffic
- Scope of Work and Technical Criteria (SWTC)
- Design and Construction Request For Tender (RFT)
- Design and Construction Deed
- Australian Road Rules
- 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)
- Australian / New Zealand Standard – AS/NZS3845 Road Safety Barrier Systems
- All AustRoad Guides as required, but specifically:
 - Guide to Traffic Management Part 2: Traffic Theory
 - Guide to Traffic Management Part 5: Intersections at Grade
 - Guide to Traffic Management Part 6: Intersections and Crossings – General
 - Guide to Road Design Part 4: Intersections and Crossings – General
 - Guide to Road Design Part 6: Roadside Design, Safety and Barriers
 - Guide to Traffic Engineering Part 14: Bicycles
- RMS Traffic Control at Worksites Manual Ver 4, June 2010
- RMS Delineation Manual March 2008
- RMS Road Safety Audit Technical Direction TD2003/RS03, Version 2 – August 2005
- RMS Road Occupancy Manual
- RMS Regulatory Signs Guide
- RMS Guide Signs Manual 2007
- RMS's VMS Policy - Technical Directions TDT 2002/11 and TDT2005/02A
- RMS equipment specification P3074A
- RMS equipment specification FAS/4
- RMS equipment specification PTS/3
- RMS DCM R132 Safety barrier systems
- RMS R141 Pavement Marking
- RMS R142 Retro Reflective Raised Pavement Markers
- RMS R3351 Road Marking Paint
- RMS R3353 Glass Beads
- RMS R3354 Adhesives for RPM Installation
- RMS R3357 Thermoplastic Road Marking Material
- RMS R3359 Profile Thermoplastic Road Marking Material
- RMS Delineation Guidelines
- Relevant RMSTechnical Directions and Guide updates
- SI/TCS/8 Installation of traffic light signals
- TMC Guide to Traffic and Transport Management for Special Events

Appendix B: Example Traffic Safety Risk Register

Note: Traffic Control Plans would be prepared considering the risk identified in this register and as such, this register would not be updated.

A complete table would be provided as part of the Planning Approval process.

Table 21: Traffic Safety Risk Register

Hazard Event	Potential causes	Potential consequence(s)	Risk Controls in place (which are considered when determining the risk rating)	Consequence	Likelihood	Risk rating	Description of Tasks Required to achieve SFAIRP	Consequence	Likelihood	Risk rating
Traffic congestion	Congestion in the local area increase in traffic volume Vehicle breakdowns Haulage operations Coinciding RMS or other Project works	Reduced travel times Affect on school bus routes	Obtain traffic volume data and conduct analysis as required Where possible, minimise lane closures and speed limit reductions Plan works during low traffic volume periods where possible Notify road users about expected delays in advance Have alternate haulage routes Haul at night and/or over 24hrs Communicate regularly with nearby works or Projects	S4: Moderate	L3: Possible	3: Tolerable	Monitor road network for congestion, review traffic management measures as required All construction teams coordinate and plan works to reduce need for road occupancies	S5: Minor	L3: Possible	3: Tolerable
Impacts to Emergency Service Response Within Road Network	Congestion in the local area created by increase in traffic volume	Fatality	Design and implement emergency service accesses in all stages of construction Inform and regularly update emergency services in regards to the site gates and accesses	S2: Severe	L3: Possible	2: Undesirable	Consult with emergency services on access restrictions and alternative arrangements Provide 24hr contact number to all emergency services Use the TTLG forum to advise of changes	S3: Major	L4: Unlikely	3: Tolerable
Special events (on road)	Increase in traffic volume	Reduced travel times	Support RMS, TMC, Local Council in managing special event Liaise with TMC and organisers to manage the traffic flow through work area	S5: Minor	L2: Likely	3: Tolerable	Where possible, schedule road occupancy works to avoid conflict with special event traffic Coordinate and maintain regular contact with TMC and Local Council	S6: Insignificant	L2: Likely	3: Tolerable

Appendix C: Construction Site Layouts and Access

Site layouts will be adapted to any changes in the construction works/methods. Specific site details will be provided as part of the planning approval process.

The layouts at the time of issue of this document are as follows:

Figure	Title
Figure 12:	Kingsgrove Construction Compounds (C1, C2 and C3)
Figure 13:	Bexley Construction Compounds (C4, C5 and C6)
Figure 14:	Arncliffe Construction Compound (C7)
Figure 15:	SPI Construction Compounds (C8, C9, C10 & C11)
Figure 16:	Campbell Road Bridge Construction Compound (C12)
Figure 17:	Gardeners Road Bridge Construction Compound (C13)
Figure 18:	Wolli Creek Compound (C17)
Figure 19:	Camdenville Basin Construction Compound (C19)

Figure 12: Kingsgrove Construction Compounds (C1, C2 & C3)



Figure 13: Bexley Construction Compounds (C4, C5 & C6)



Figure 14: Arncliffe Construction Compound (C7)

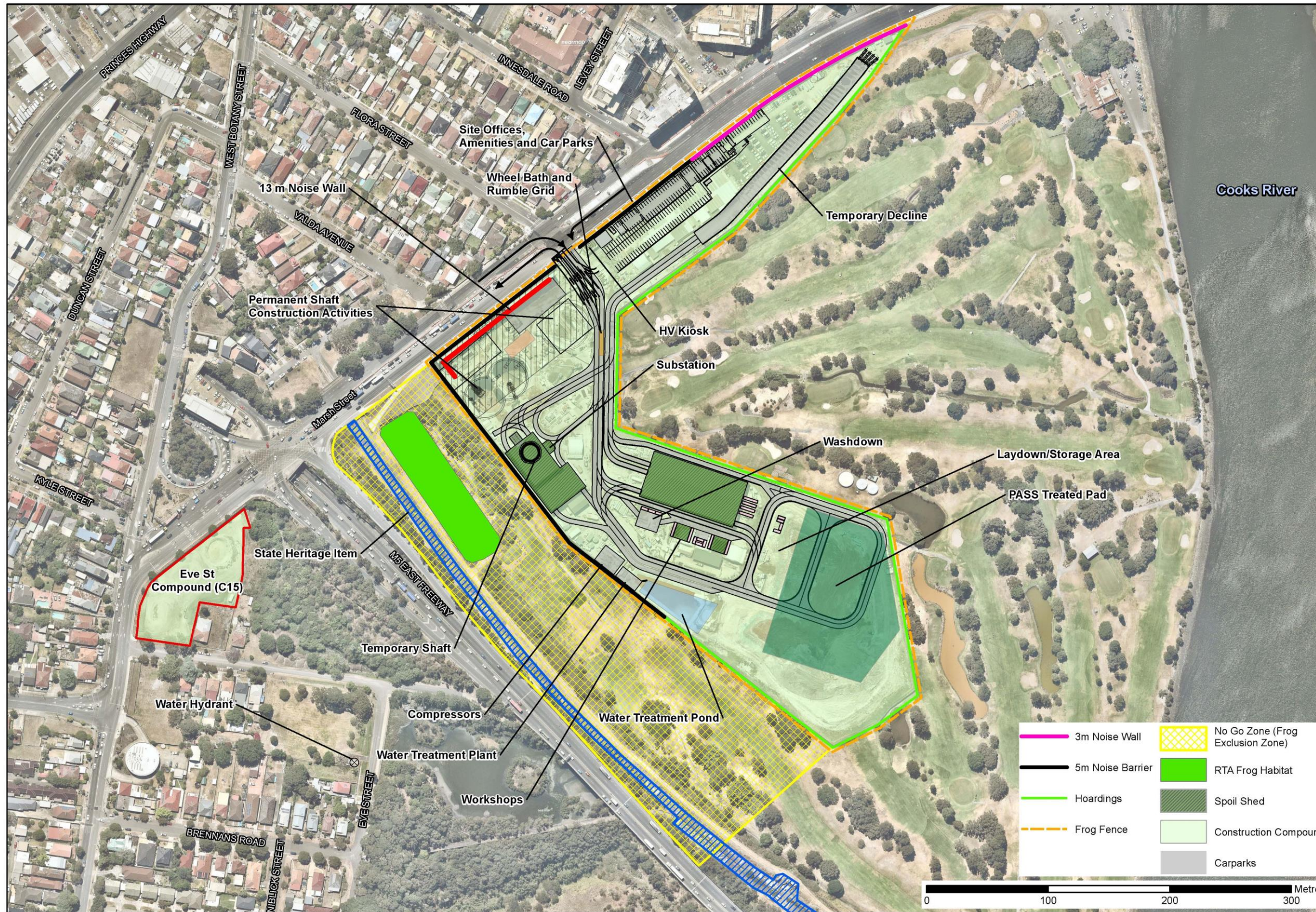


Figure 15: SPI Construction Compounds (C8, C9, C10 & C11)

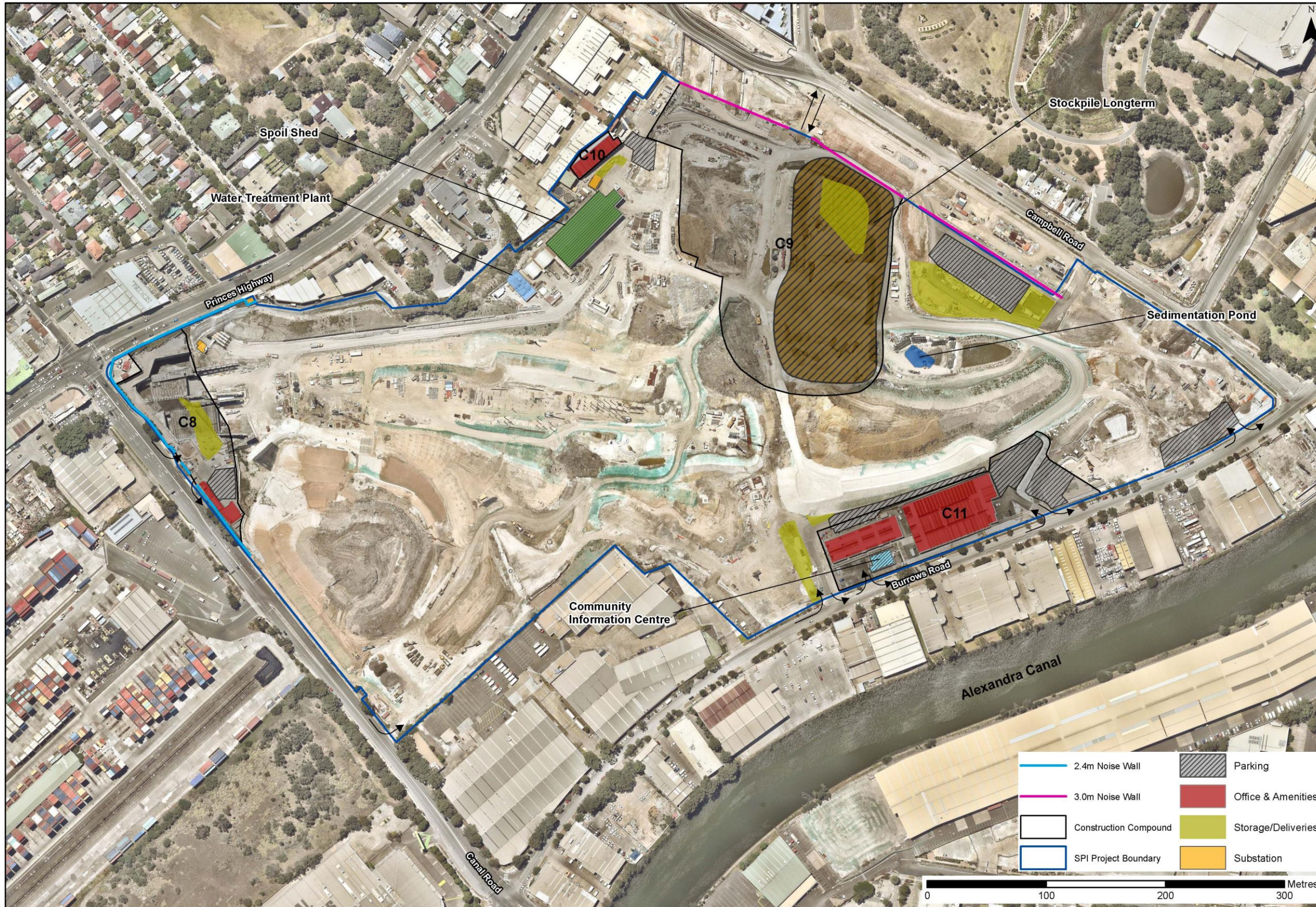


Figure 16: Campbell Road Bridge Construction Compound (C12)



Figure 17: Gardeners Road Bridge Construction Compound (C13)

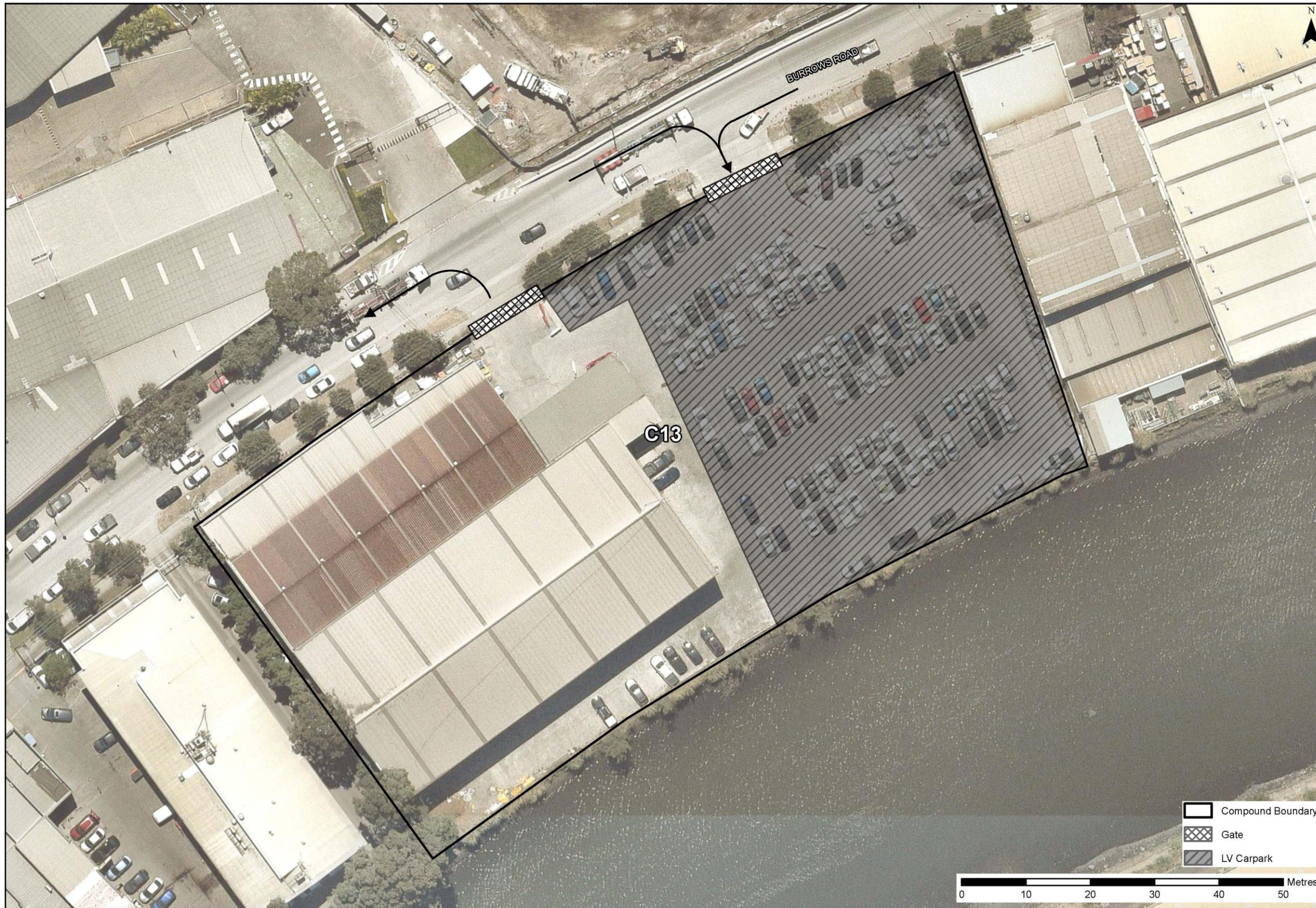


Figure 18: Wolli Creek Compound (C17)

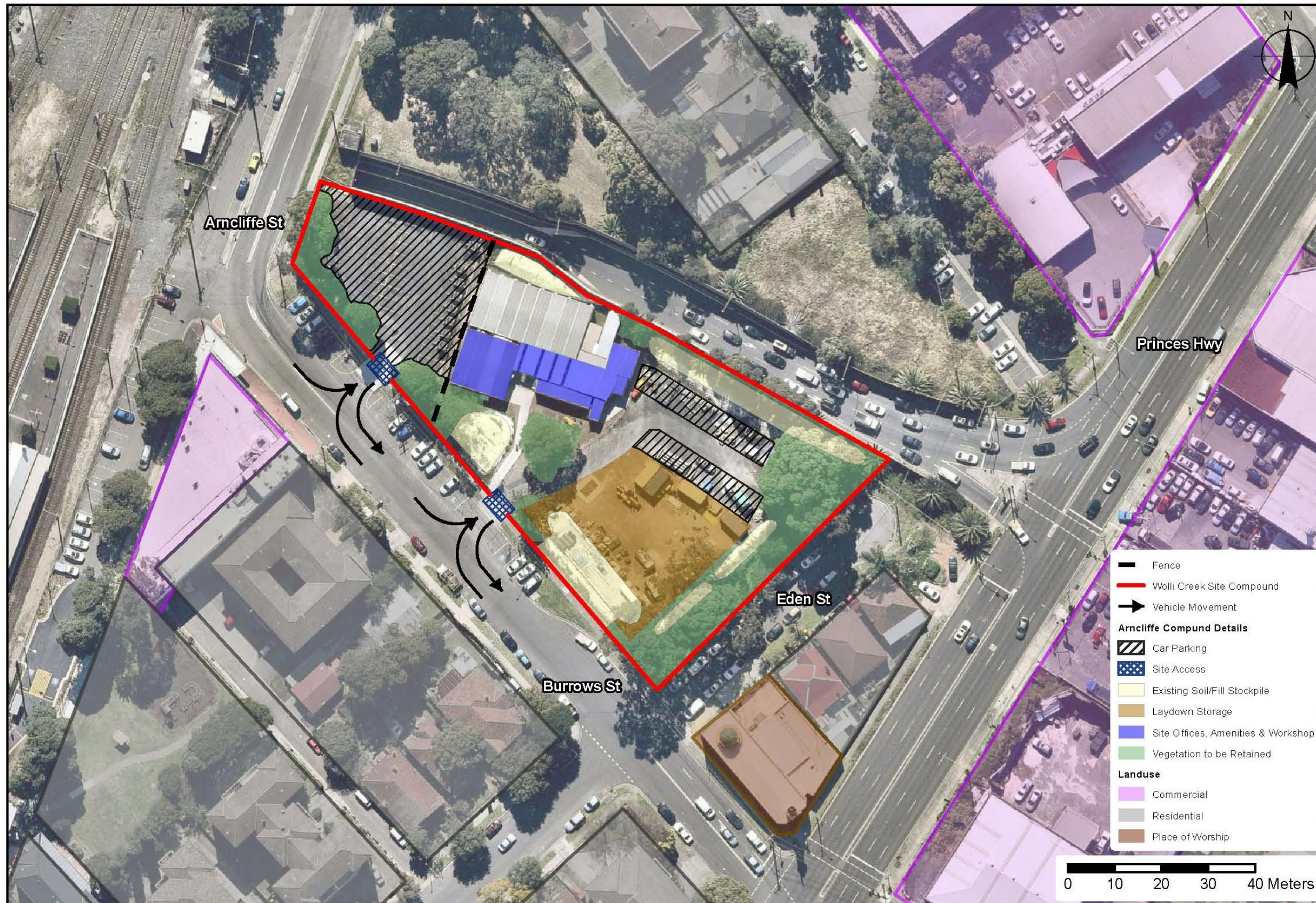
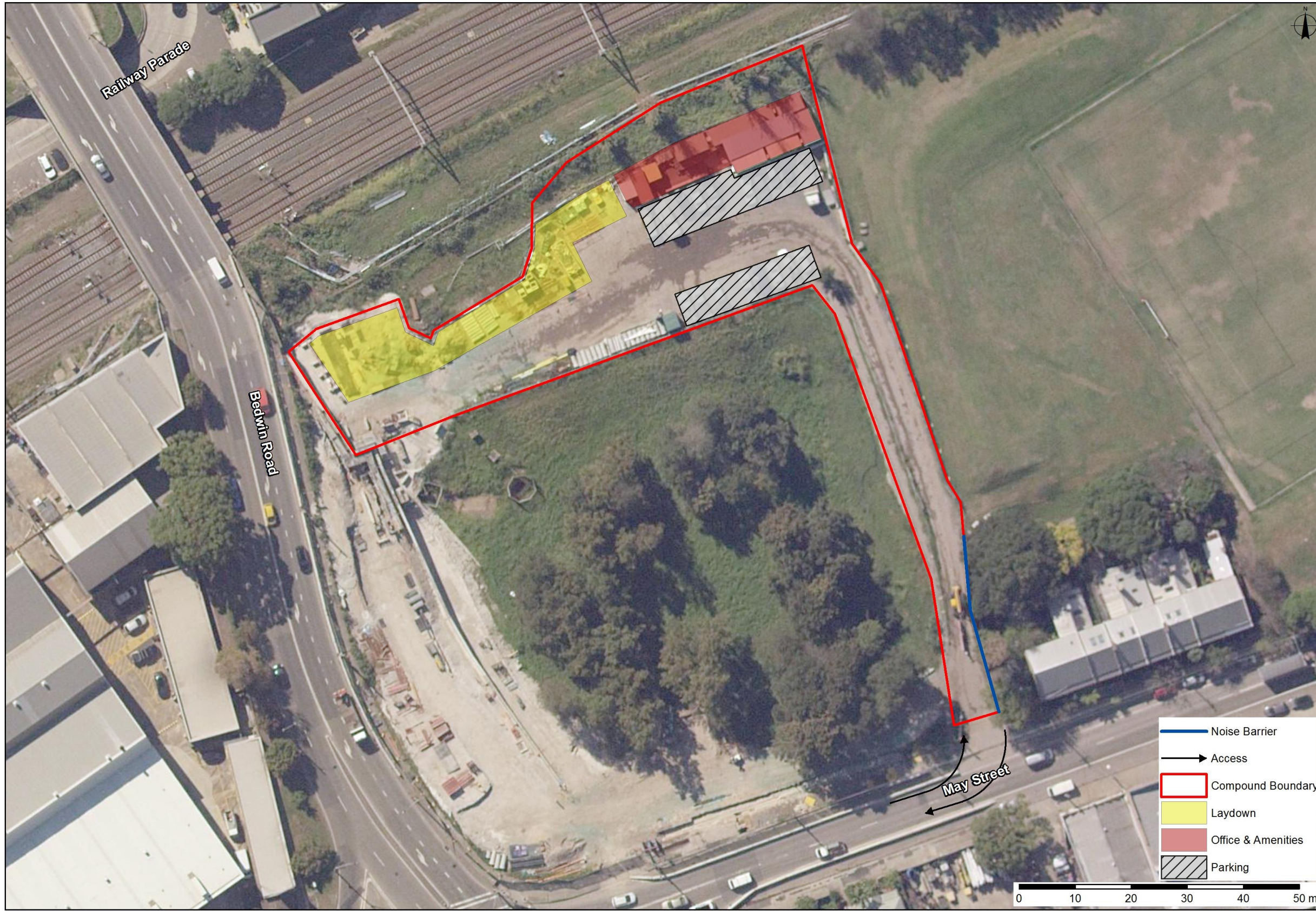


Figure 19: Camdenville Basin Construction Compound (C19)



Construction Traffic and Access Sub Plan



Appendix D: Traffic Control Plans (TCP's)

These are to be developed progressively throughout the construction programme for both long and short term works.



Appendix E: Typical Vehicle Movement Plan

Table 22: Typical Vehicle Movement Plan

Vehicle and/or Pedestrian Management Plan for XXXXX		VMP No:
		Rev:
<p>Plan Principles <i>Add/remove principles as required</i></p> <p>Work Area to be shown to the right</p> <p>Delivery Area/Point Include route and turning areas</p> <p>Separation Distances for NON Essential workers</p> <p>Other work groups identified and an exclusion maintained by demarcation</p> <p>Parking areas identified and route to work area – if across haul route/other work areas additional measures to be identified – Minimise reversing to Haul Route</p> <p>Excavations/obstructions/crushing zones/ plant only area to be detailed with method to restricted access.</p> <p>Plant only areas-work group to be established where possible – note demarcation.</p> <p>Turning areas- detailed (or noted where remote from works area)</p> <p>Danger Zone-Shown and controls to prevent accidental entry by vehicles and pedestrians</p> <p>Poor Light-Lighting to be provided in all areas and pedestrian routes, if working at night</p>	<p>Description of Works</p> <p>Worksite Diagram</p> <p>Use a CURRENT aerial photo, design drawing or detailed hand drawing as a base THEN draw vehicle paths, turning circles, reversing areas, stockpiles and any and all other details required to ensure safe vehicle movements for this particular activity.</p>	<p>Location/ Chainage</p>
<p>Legend/ Notes <i>Add items/symbols as required</i></p> <p>Works Area</p> <p>Haul Routes</p> <p>Parking Area</p> <p>Delivery Area</p> <p>Pedestrian Routes</p> <p>Vehicle Barriers</p> <p>ATF Fencing</p> <p>Demarcation</p> <p>Cones</p>		
<p>Notes <i>Change/add as required</i></p> <ul style="list-style-type: none"> VMP's must be discussed daily at the Prestart meetings Plan is Mandatory to all works areas and must be approved prior to works commencing Supervisor (leading hand, foreman or PE) – Approver (Safety team member, SPE, Area Manager or Superintendent) Plan is to be briefed to all members of the work group with the Activity Prestart Meeting Plan is to be checked on a daily basis, approvals recorded on a weekly basis Changing conditions (ie Additional work groups, works progress) – Amend plan and agree changes Additional Controls to be included within Activity Prestart Briefing 	<p>PLAN APPROVAL / ACCEPTANCE</p>	<p>Plan Date</p>
	Supervisor (Print Name)	Signature
	Engineer (Print Name)	Signature
	Week 1 Check–Initial and Date	Week 2 Check–Initial and Date
	Week 3 Check–Initial and Date	Week 4 Check–Initial and Date

Appendix F: Consultation Register

The Minister's Condition of Approval requires that a Construction Traffic and Access Management Plan be prepared for the WestConnex Stage 2 M5 as part of the overall Construction Environmental Management Plan (CEMP). This Plan has been developed to satisfy that approval condition. Furthermore, the condition requires that the Plan be prepared in consultation with the relevant local councils. This Plan has been provided to a range of relevant Councils and stakeholders as listed in Section 9.2.

Table 22 below summaries the key issues identified by individual Councils and stakeholders, where comments on the plan were received and indicates how the issues have been addressed in the plan."

Responses to comments are outlined in the table below.

Table 22: Consultation Register

No.	Reference	Issue/Comment	CDS-JV Response
RMS Comments			
1	RMS	Nil	This stakeholder has commented on the Traffic Management and Safety Plan
TMC Comments			
2	TMC	Nil	As above
SMC Comments			
3	SMC	Nil	As above
City of Sydney Council			
4	CoS	Consulation over local traffic impacts	Consultation with Council would be satisfied through Council's role on the Transport and Traffic Liaison Group (Section 9.6)
Inner West Council			
5	IWC	Local impacts on traffic, parking cyclists and pedestrians	Traffic impacts would be addressed in detail in Traffic Management Plans (Section 5.2). Parking demand for staff vehicles is being met on site (table 12) and a Modal Shift Strategy is presented in Section 6.19 Safe access is addressed in Section 6.9
Motorcycle Council of Australia			
6	MCA	Hazards from temporary safety barriers and slip hazards	CDS-JV will ensure compliance with RMS specifications and relevant design and safety guidelines
Bicycle NSW			
7	BNSW	Safe and alternative cycle routes where cycling is impacted and design for safety	Mitigation measures will be in accordance with Austroads design standards. Consultation would be undertaken with BNSW during the preparation of detailed Traffic Management Plans.
NRMA			
8	NRMA	Operational performance of the motorway	These issues are outside the scope of the CTASP but should be addressed through RMS at commencement of the operational phase of the project
Sydney Airport			

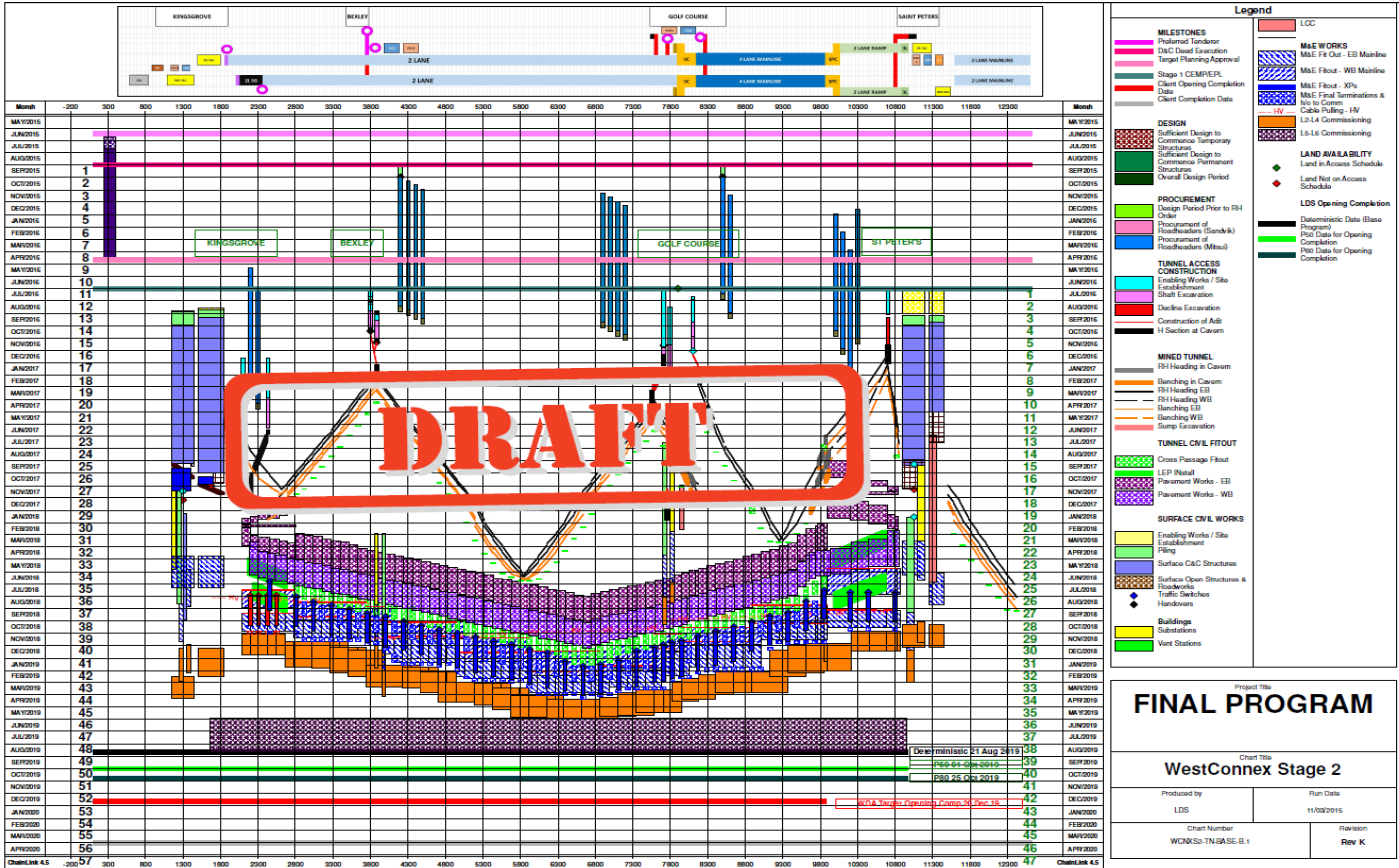
Construction Traffic and Access Sub Plan

No.	Reference	Issue/Comment	CDS-JV Response
9	Sydney Airport	Ensure that the necessary approvals are obtained by CDS-JV and a traffic management assessment is undertaken prior to the use of roads and/or land areas [additional to those already approved].	CDS-JV will ensure all necessary approvals and consultation is undertaken prior to the use of any roads and/or land areas that are not yet approved for the project. Potential risks and impacts will be assessed and managed in accordance with Section 6 of this Plan.

This table is completed as part of the review process of this CTAP

Appendix G: High Level Construction Program

Figure 20: A high level program is provided as part of the planning approval process.



Appendix H: Likely Construction Vehicle Routes (includes haul, deliveries, light and heavy vehicles)

Final routes would be provided as part of the planning approval process

The layouts at the time of issue of this document are as follows:

Figure	Title
Figure 21	Overview of All Vehicle Routes
Figure 22	Kingsgrove North
Figure 23	Kingsgrove South
Figure 24	Bexley North
Figure 25	Bexley South
Figure 26	Arncliffe
Figure 27	Wolli Creek
Figure 28	Canal Road
Figure 29	Campbell Road
Figure 30	Burrows Road
Figure 31	Local Roads Works



Figure 21: Overview of All Vehicle Routes.



Figure 22: Kingsgrove North

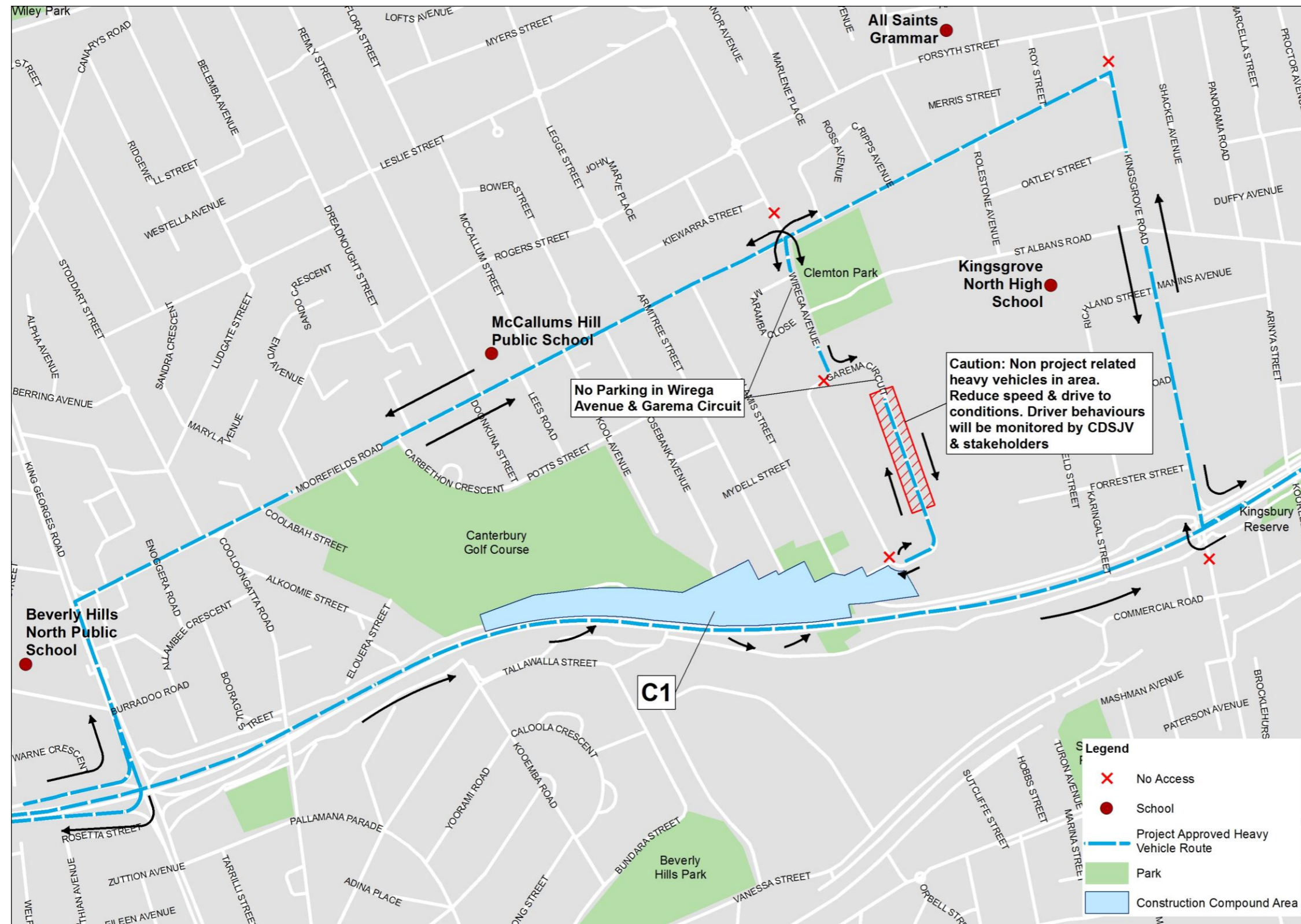


Figure 23: Kingsgrove South

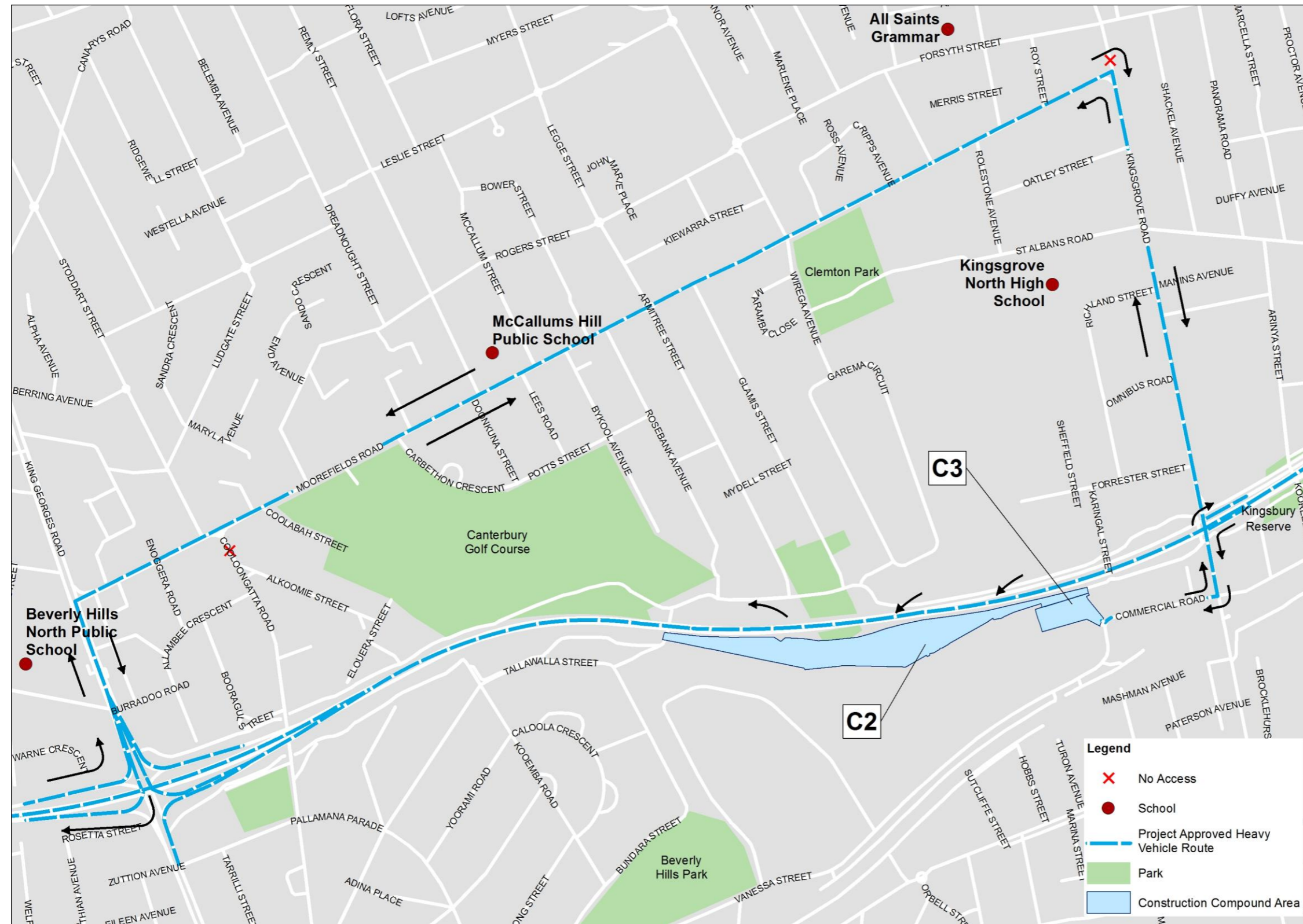


Figure 24: Bexley North

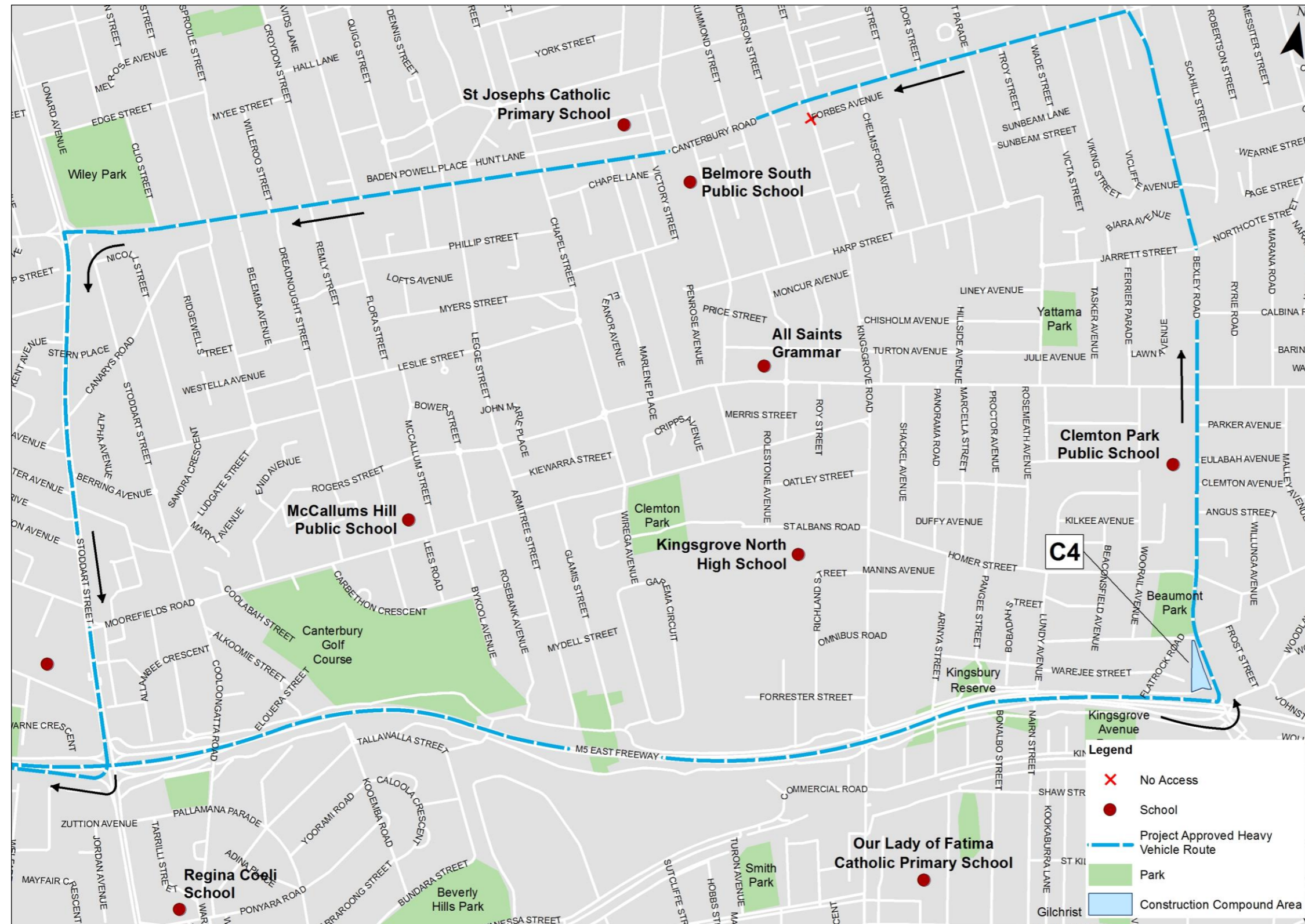


Figure 25: Bexley South and East

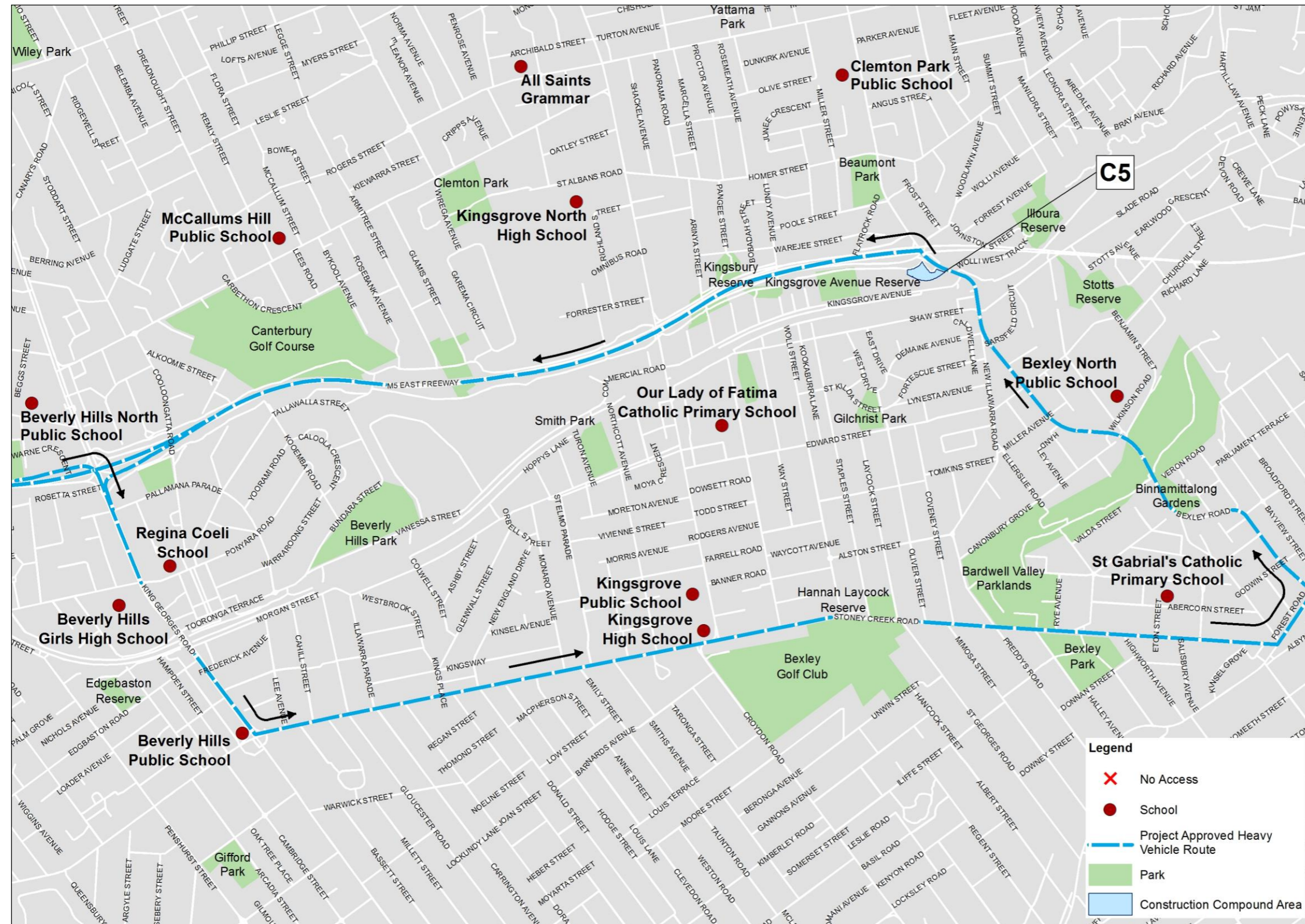


Figure 26: Ancliffe (C7)

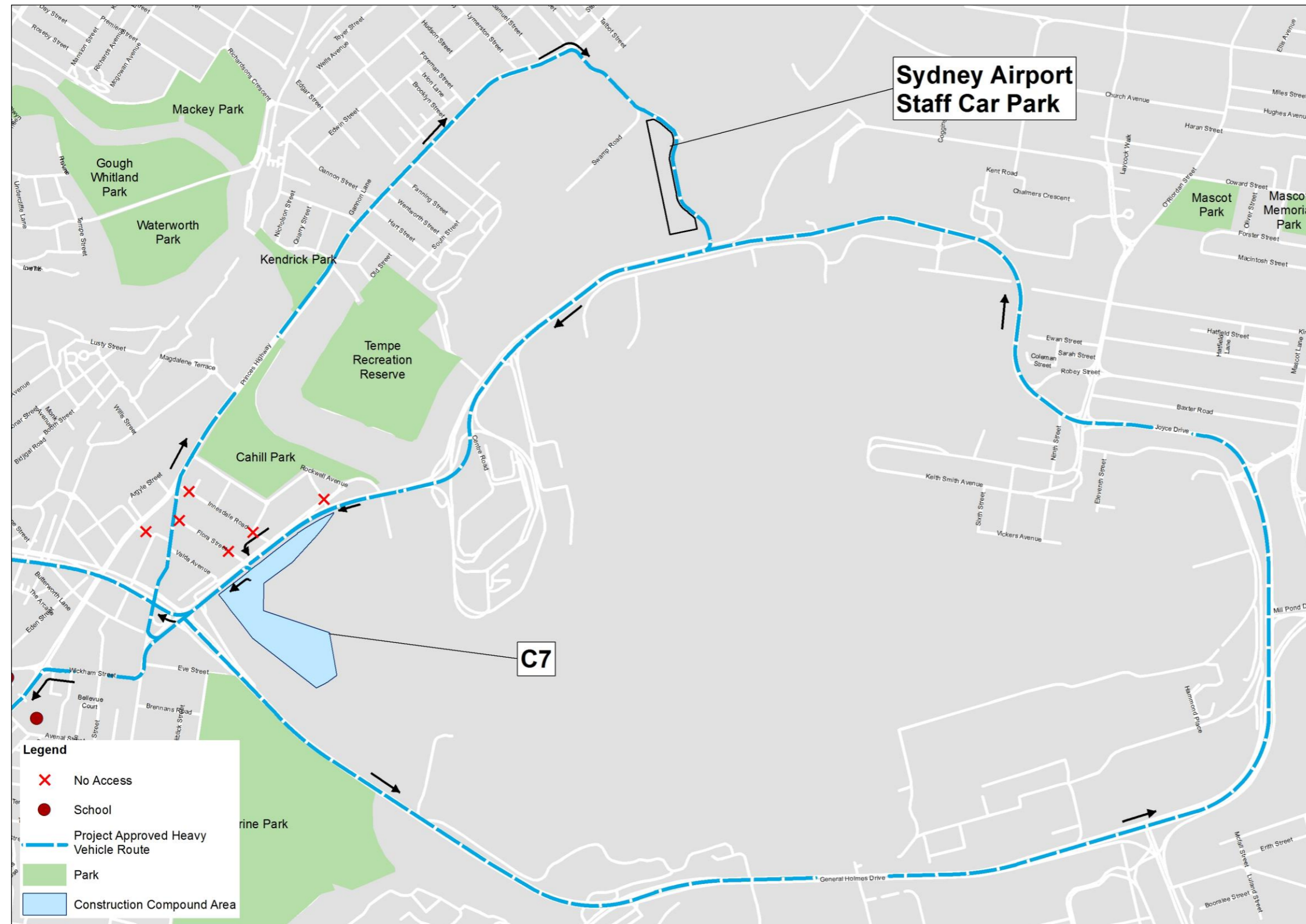
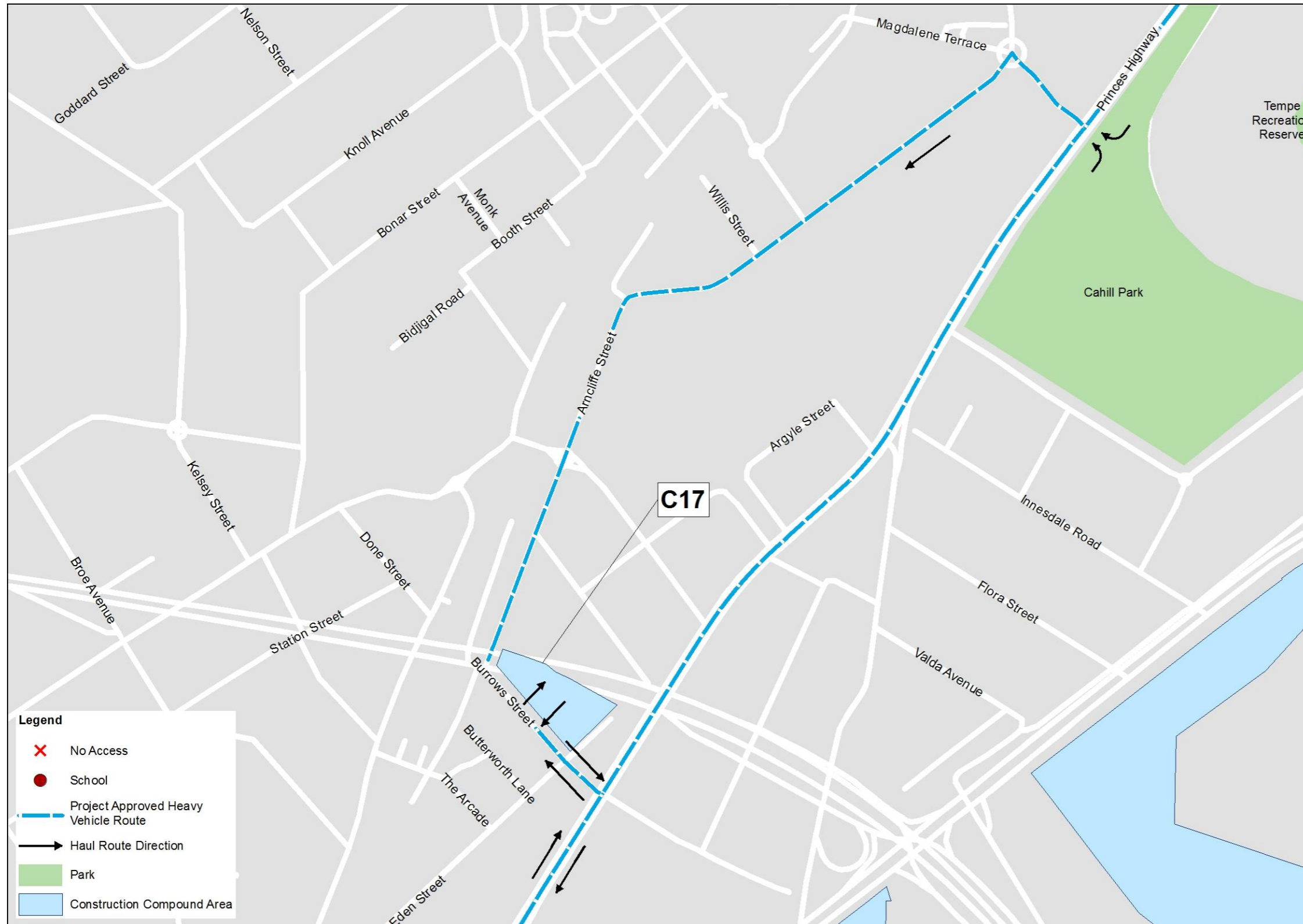


Figure 27: Wolli Creek



Legend

- ✗ No Access
- School
- Project Approved Heavy Vehicle Route
- Haul Route Direction
- Park
- Construction Compound Area

Figure 28: Canal Road (C8)

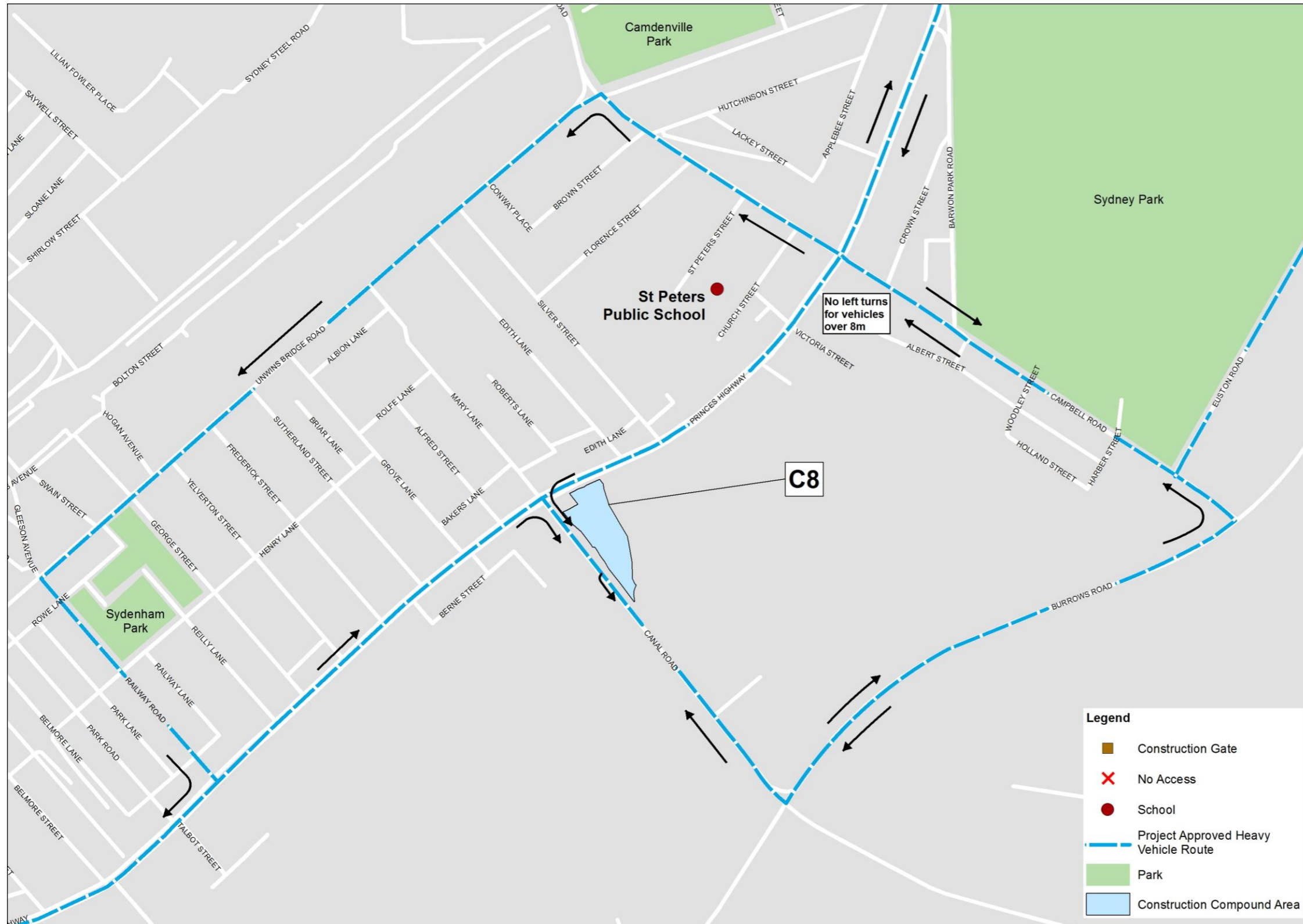


Figure 29: Campbell Road



Figure 30: Burrows Road

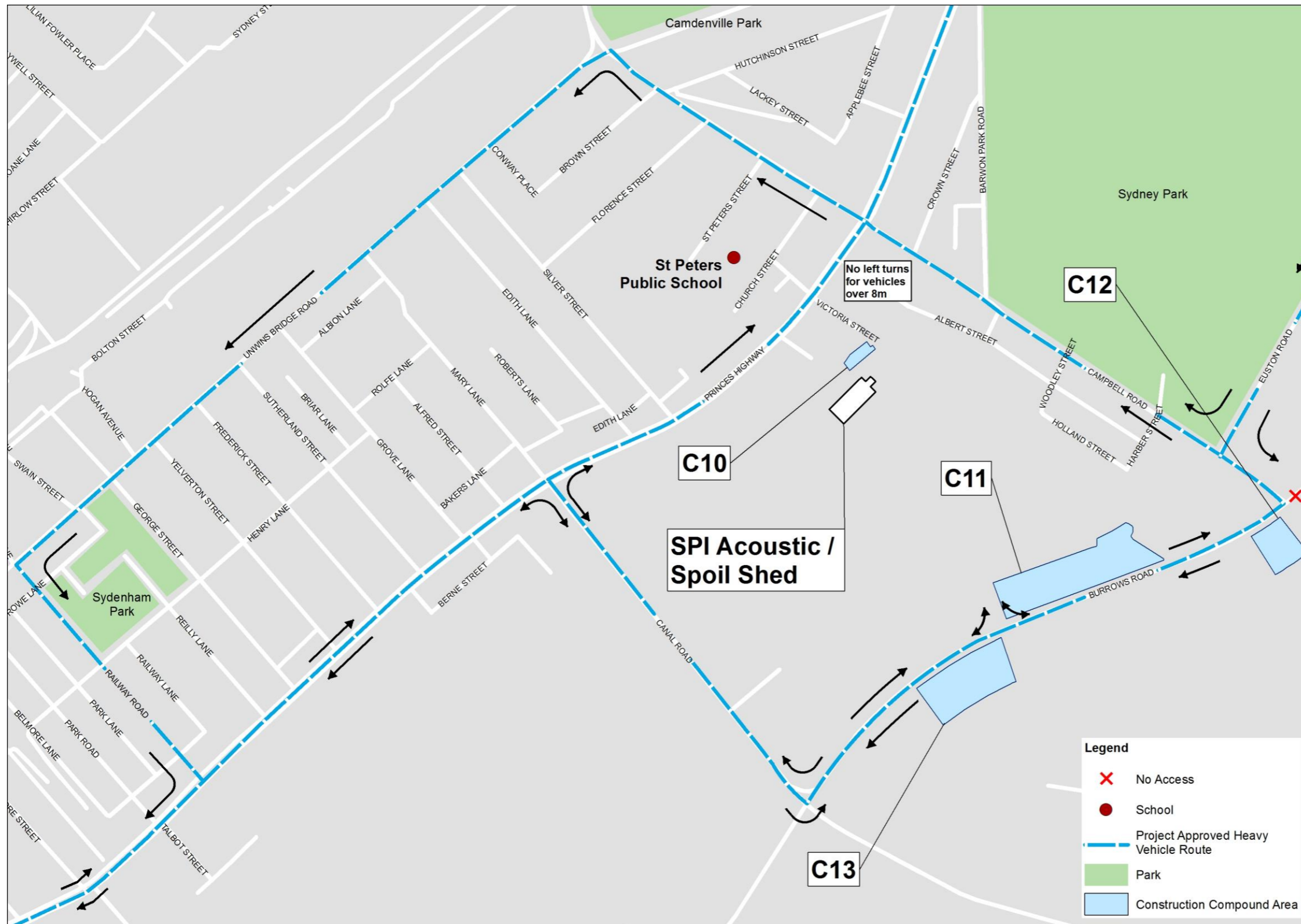


Figure 31: Local Roads Works



NB. Barwon Park Road, Maddox Street, Bourke Street and Burrows Road (between Campbell Rd and Huntley St) are for Local Roads Works use only. Restrictions apply to these routes and should be confirmed prior to use.

Appendix I: Traffic Staging – Western Surface Works (M5) and Local Roads

WESTERN SURFACE WORKS – M5 STAGING

Figure	Title	Page #
Figure 37:	Western Surface Works – Typical Gate Design for All Gates Accessing the M5	Page 97
Figure 38:	Western Surface Works – Stage 1	Page 98
Figure 39:	Western Surface Works – Stage 1 Cross Section	Page 99
Figure 40:	Western Surface Works – Stage 2	Page 100
Figure 41:	Western Surface Works – Stage 2 Cross Sections	Page 101
Figure 42:	Western Surface Works – Stage 3	Page 102
Figure 43:	Western Surface Works – Stage 3 Cross Sections	Page 103
Figure 44:	Western Surface Works – Finishing Works	Page 104
Figure 45:	Local Road Upgrade Staging- Zone Overview	Page 105
Figure 46:	Local Road Upgrade Staging- Zones A & B (Stage 1) Campbell Street	Page 106
Figure 47:	Local Road Upgrade Staging- Zones A & B (Stage 2) Campbell Street	Page 107
Figure 48:	Local Road Upgrade Staging- Zone C (Stage 1) Campbell Road	Page 108
Figure 49:	Local Road Upgrade Staging- Zone C (Stage 2) Campbell Road	Page 109
Figure 50:	Local Road Upgrade Staging- Zone E (Stage 1) Bourke Road	Page 110
Figure 51:	Local Road Upgrade Staging- Zone E (Stage 2) Bourke Road	Page 111
Figure 52:	Local Road Upgrade Staging- Zone F (Stage 1) Euston Road	Page 112
Figure 53:	Local Road Upgrade Staging- Zone F (Stage 2) Euston Road	Page 113
Figure 54:	Local Road Upgrade Staging- Zone G Sydney Park Road Intersection	Page 114
Figure 55:	Local Road Upgrade Staging- Zone H - May Street Intersection	Page 115
Figure 56:	Local Road Upgrade Staging- Zone J Euston Road Intersection	Page 116
Figure 57:	Local Road Upgrade Staging- Zone G Burrows Road Intersection	Page 117

Figure 32: Western Surface Works – Typical Gate Design for All Gates Accessing the M5

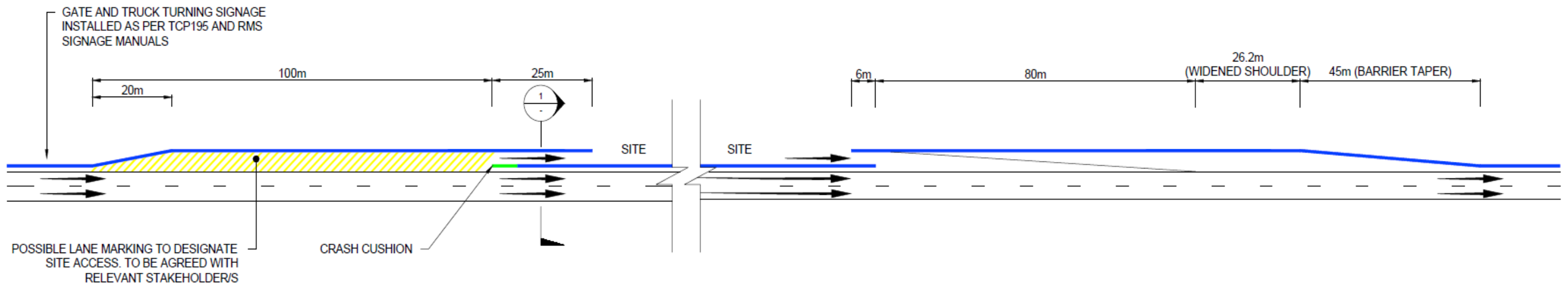
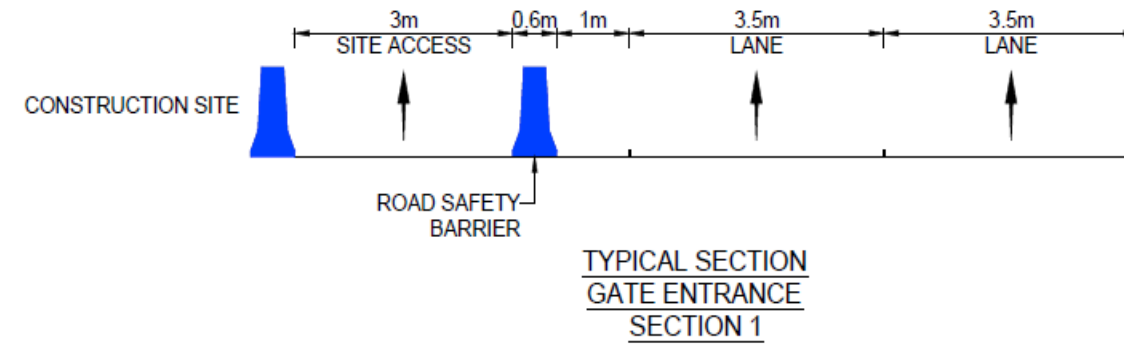


Figure 33: Western Surface Works – Stage 1

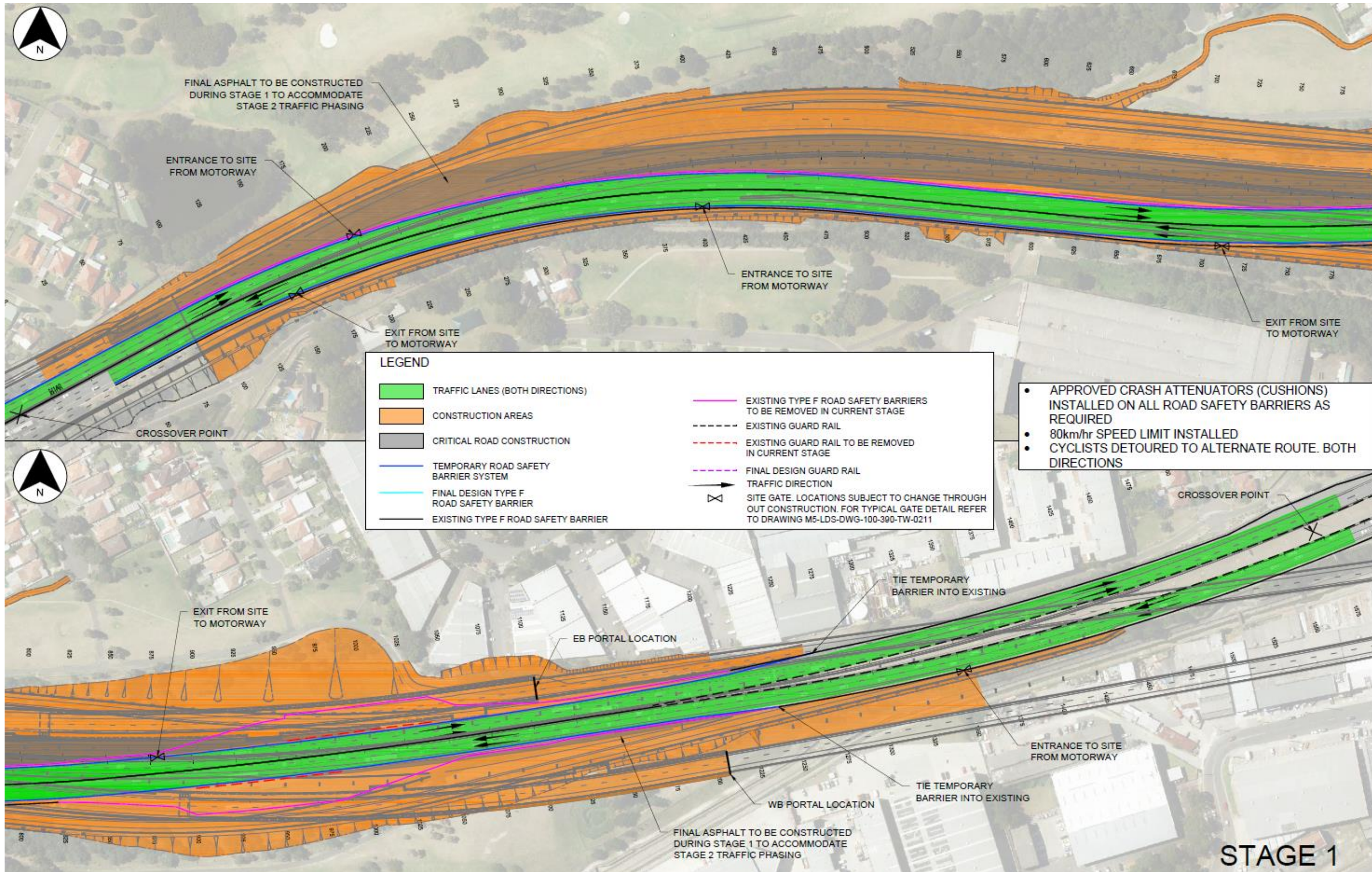


Figure 34: Western Surface Works – Stage 1 Cross Section

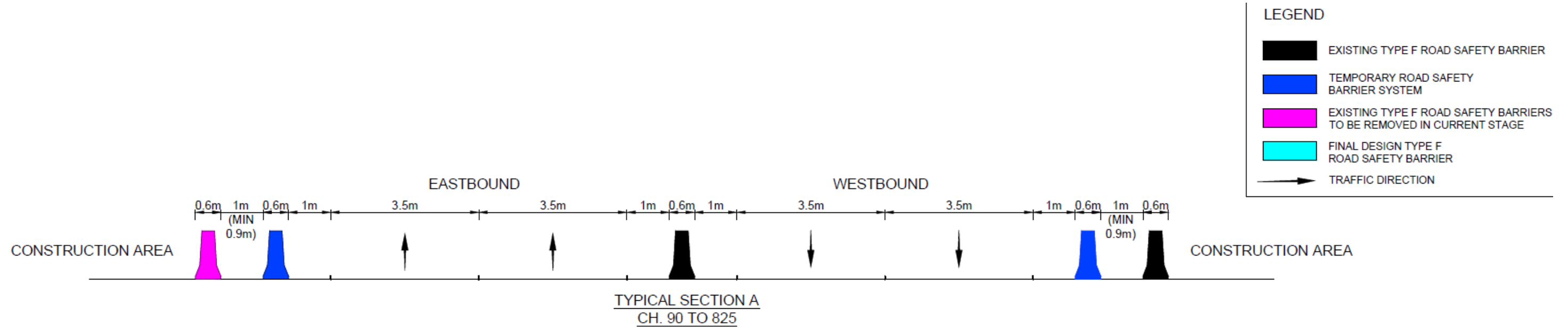


Figure 35: Western Surface Works – Stage 2

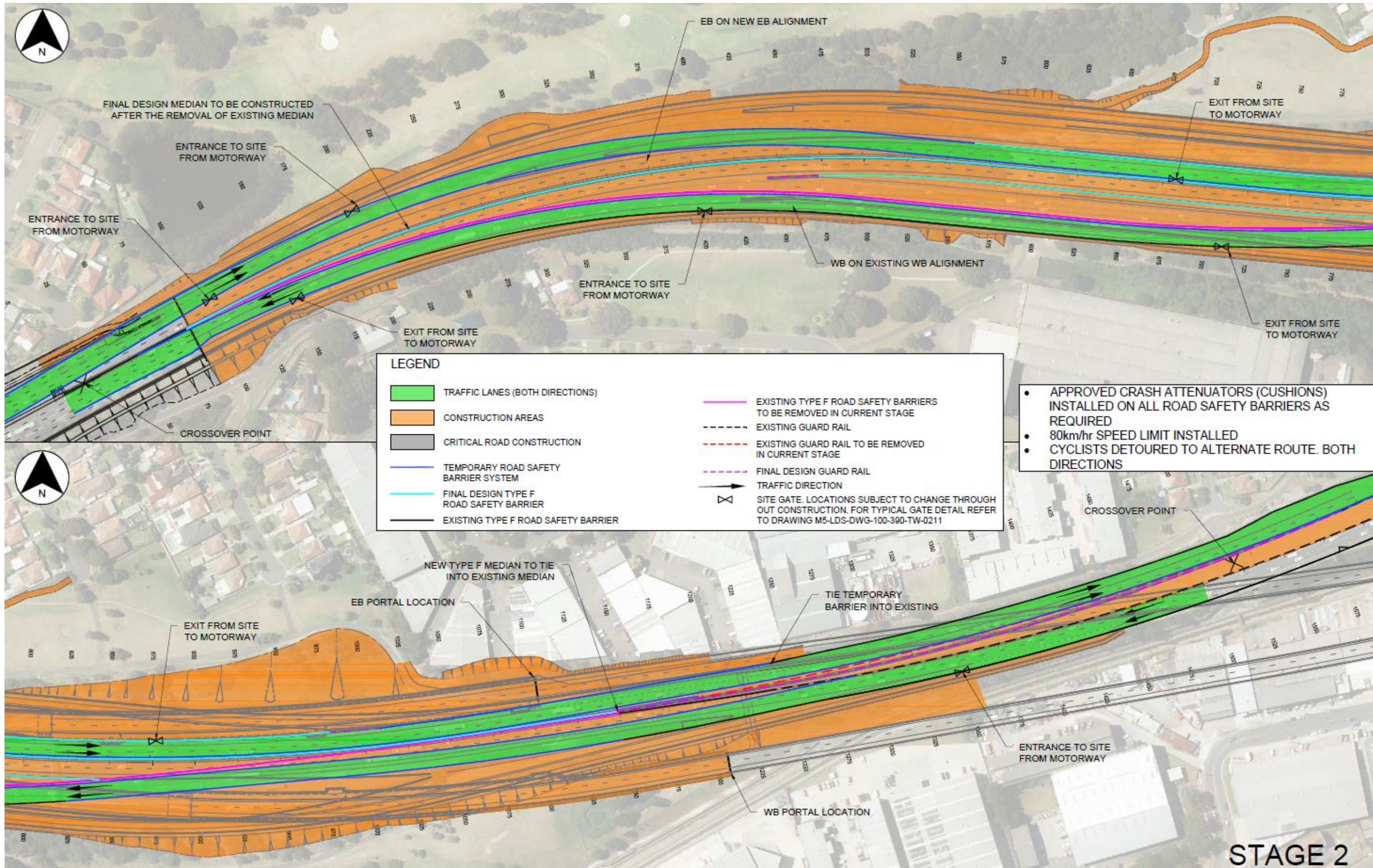


Figure 36: Western Surface Works – Stage 2 Cross Sections

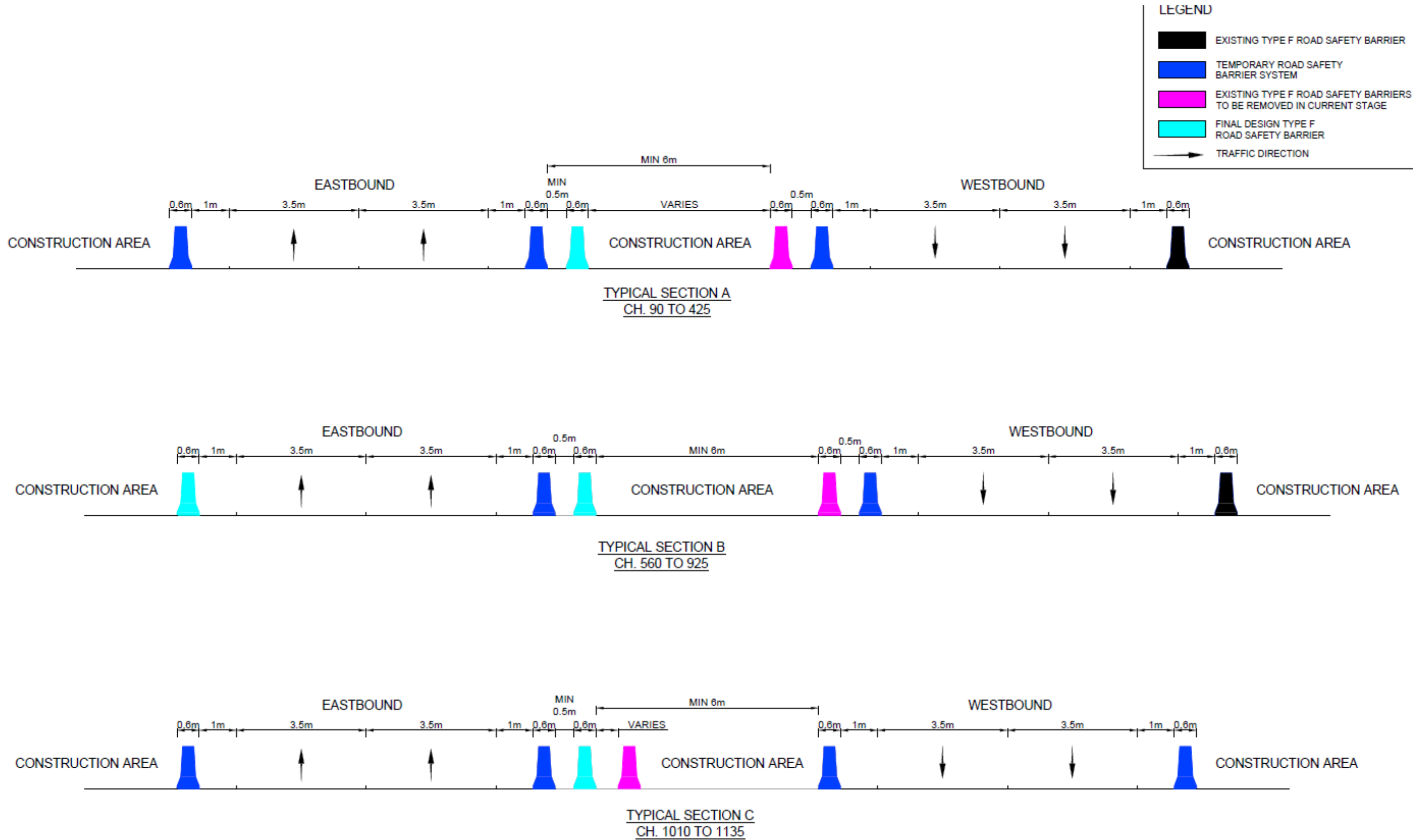


Figure 37: Western Surface Works – Stage 3

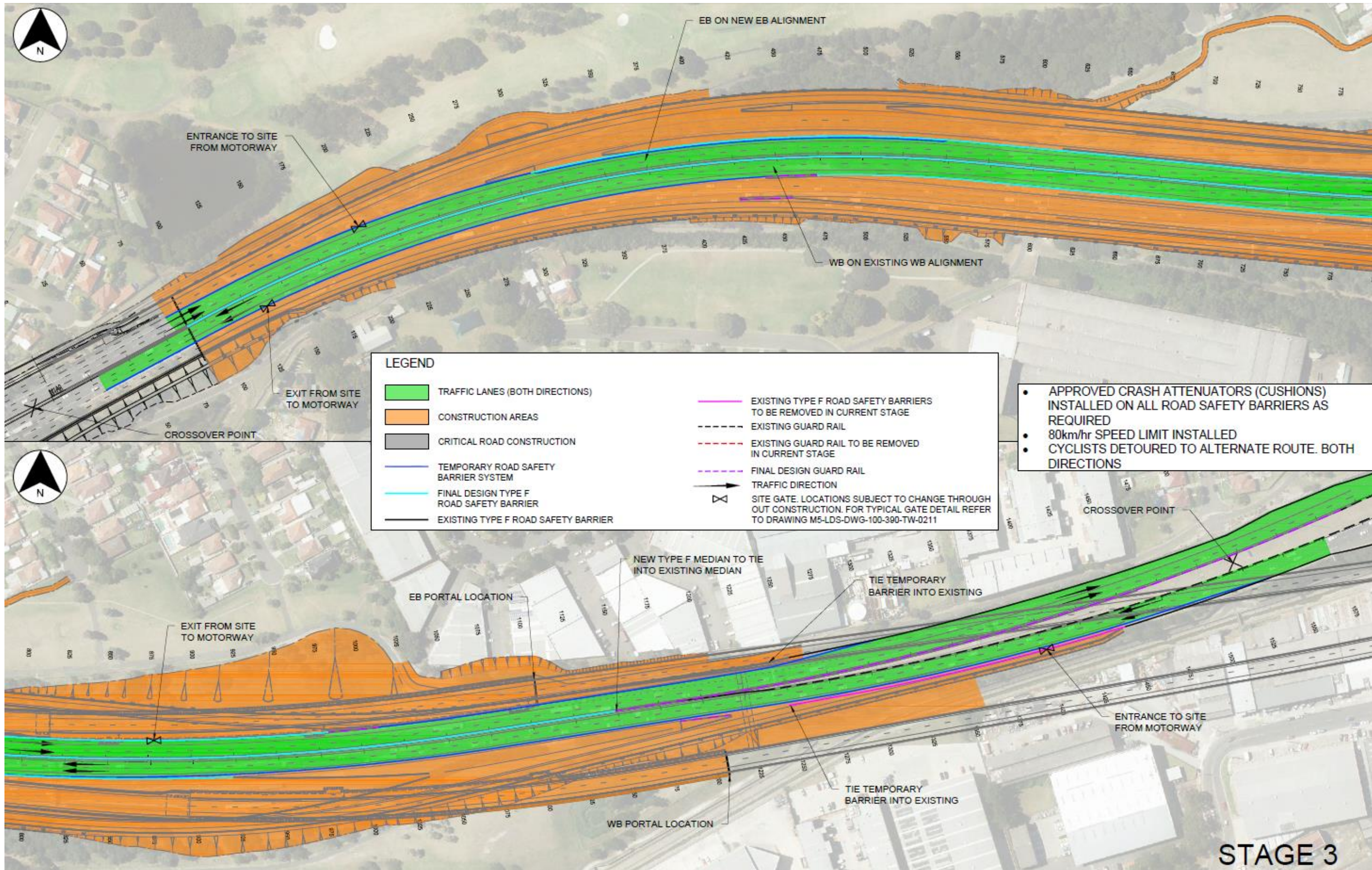


Figure 38: Western Surface Works – Stage 3 Cross Sections

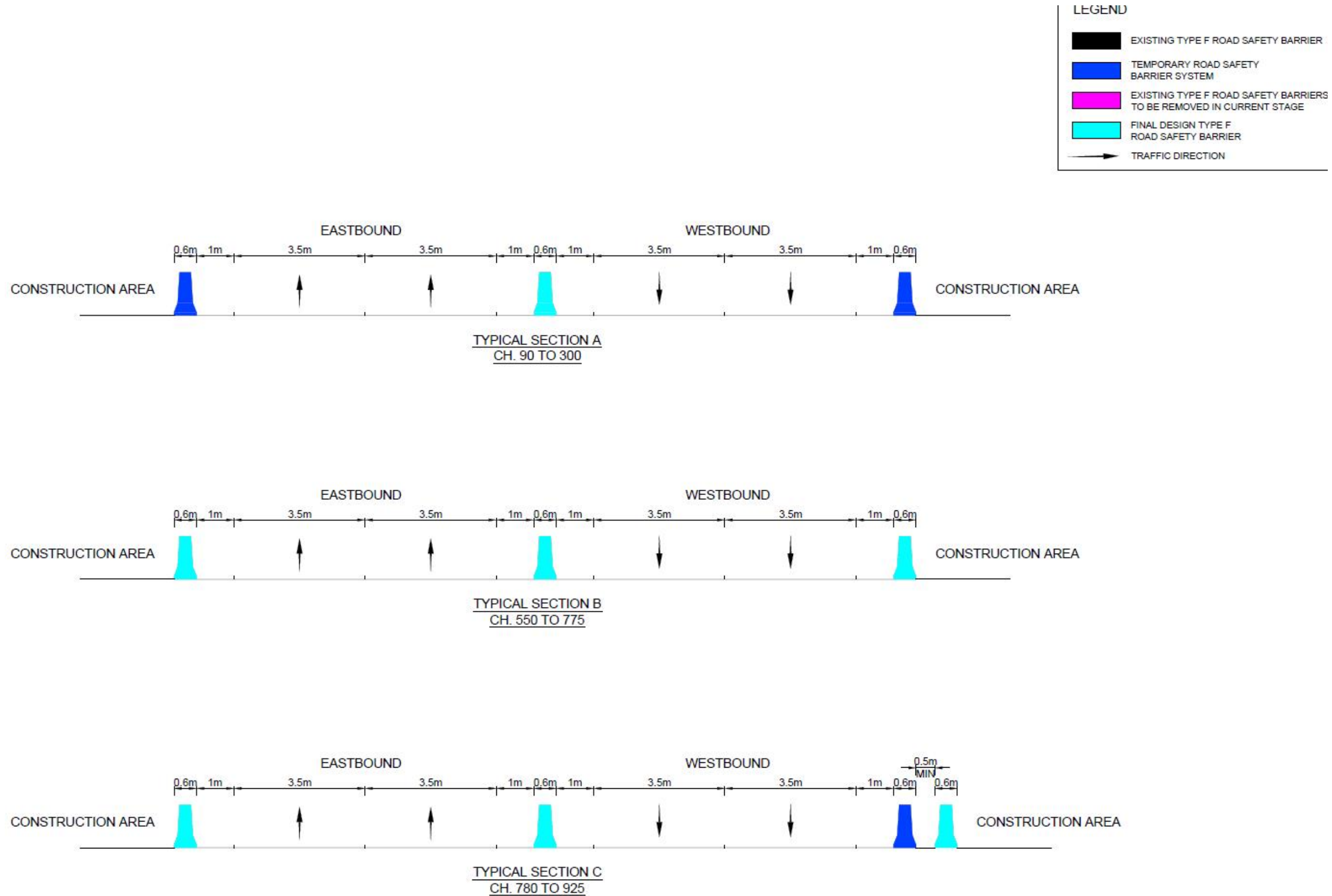


Figure 39: Western Surface Works – Finishing Works

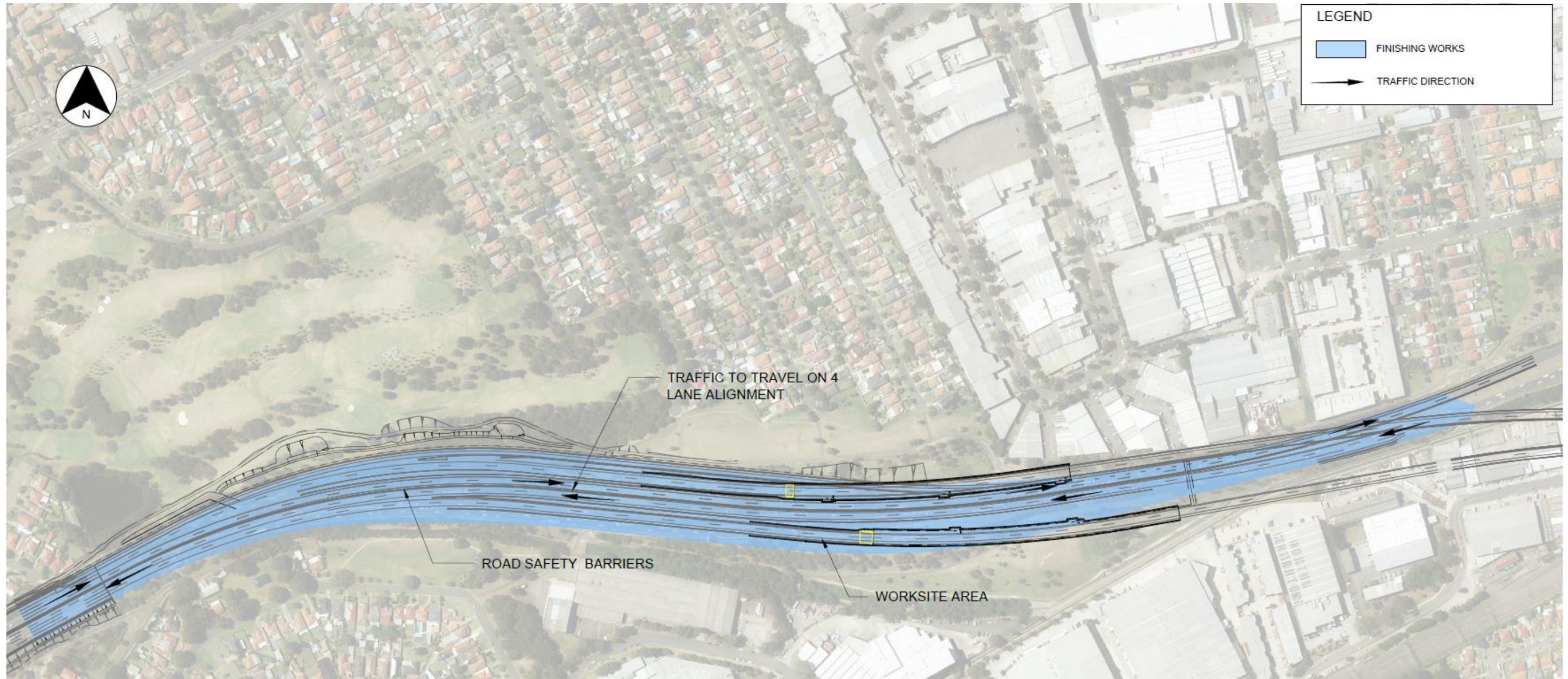
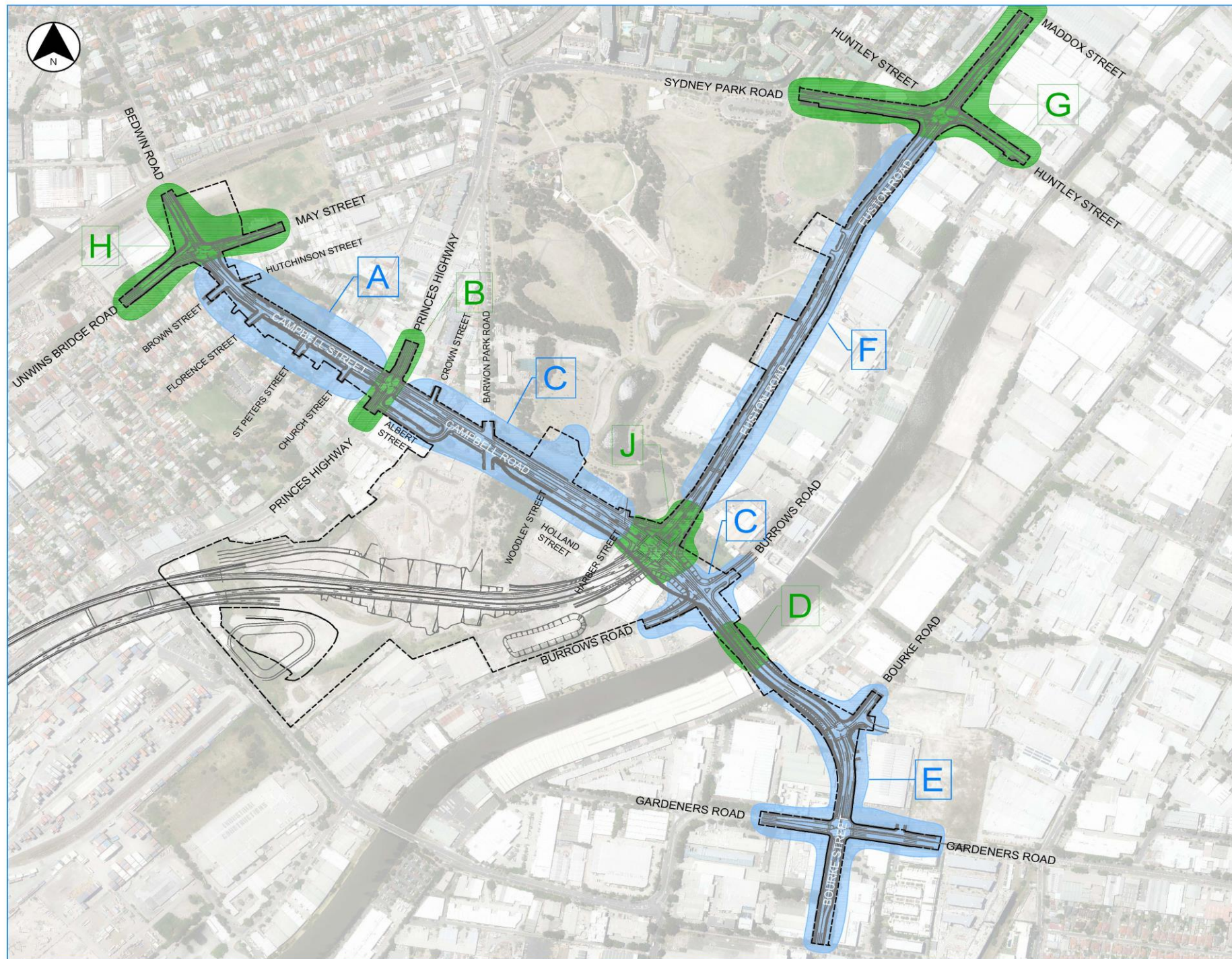


Figure 40: Local Road Upgrade Staging- Zone Overview



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE OVERVIEW

LEGEND	KEY
LOCAL ROAD ZONES LOCAL ROAD ZONES	

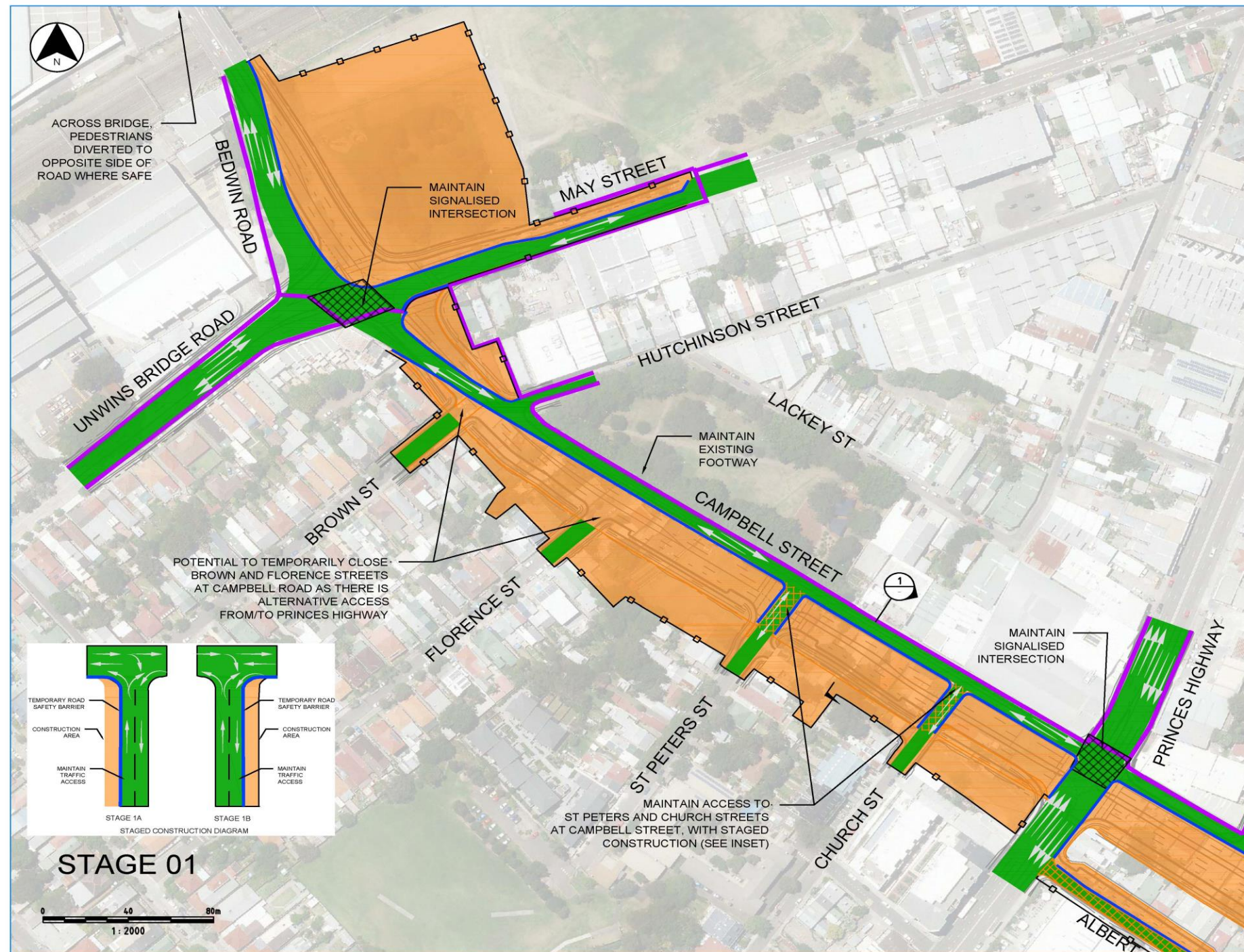
- ZONE A**
CAMPBELL STREET FROM BEDWIN ROAD TO PRINCES HWY
- ZONE B**
PRINCES HWY
- ZONE C**
CAMPBELL ROAD FROM PRINCES HWY TO BURROWS ROAD
- ZONE D**
CAMPBELL ROAD BRIDGE OVER ALEXANDRA CANAL
- ZONE E**
BOURKE ROAD, GARDENERS ROAD AND BOURKE STREET
- ZONE F**
EUSTON ROAD
- ZONE G**
SYDNEY PARK ROAD, HUNTLEY STREET AND EUSTON ROAD
- ZONE H**
UNWINS BRIDGE ROAD, MAY STREET AND BEDWIN ROAD

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

WestConnex STAGE 2 M5

M5-LDS-DWG-700-390-TW-0201

Figure 41: Local Road Upgrade Staging- Zones A & B (Stage 1) Campbell Street



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONES A & B - STAGE 1 CAMPBELL STREET

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

- ### SCOPE
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS**
- INSTALL ROAD SAFETY BARRIERS AND SITE FENCING
 - ESTABLISH SITE ACCESSES
 - REMOVE ANY REDUNDANT SIGNAGE AND INSTALL ANY NEW (CONSTRUCTION RELATED) SIGNAGE
 - REMOVE AND REPAINT LINE MARKING, IF REQUIRED
 - CLOSE AND/OR REALIGN PEDESTRIAN PATHS. EXISTING PATHS MAINTAINED WHERE POSSIBLE
 - ADJUST PARKING
 - CLOSE RELEVANT LOCAL ROADS (BROWN ST, FLORENCE ST)
 - DEMOLITION OF EXISTING BUILDINGS
 - UTILITY PROTECTION AND RELOCATION WORKS
 - DRAINAGE WORKS AND DETENTION BASIN WORKS AT CAMDENVILLE PARK
 - RETAINING WALLS TO BEDWIN ROAD
 - PAVEMENTS WIDENING AT BEDWIN ROAD, MAY STREET AND CAMPBELL ROAD SOUTHERN SIDE
 - WORKS ALONG PRINCES HWY
 - ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

- ### KEY INTERFACES
- TRAFFIC**
EXISTING LANE CONFIGURATION REMAINS UNCHANGED
REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT
PARKING MAINTAINED WHEREVER POSSIBLE
BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
INTERFACES AT BROWN ST, FLORENCE ST, ST PETERS ST AND CHURCH ST.
- ENVIRONMENT**
MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES
- COMMUNITY**
NIGHT WORKS ON ALL LOCAL ROADS WHERE WORKS ARE PLANNED
EXISTING PATHS MAINTAINED WHERE POSSIBLE
- EXISTING SERVICES**
COMMENCE DIVERSION OF MAJOR SERVICES. DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.



M5-LDS-DWG-700-390-TW-0202

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

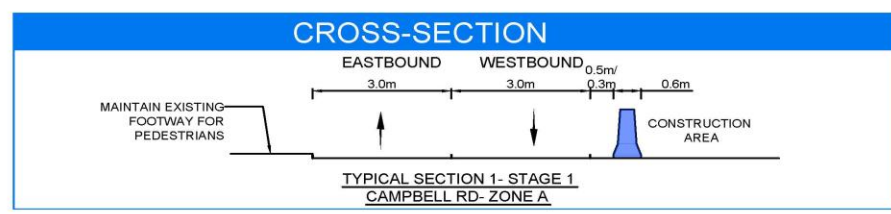
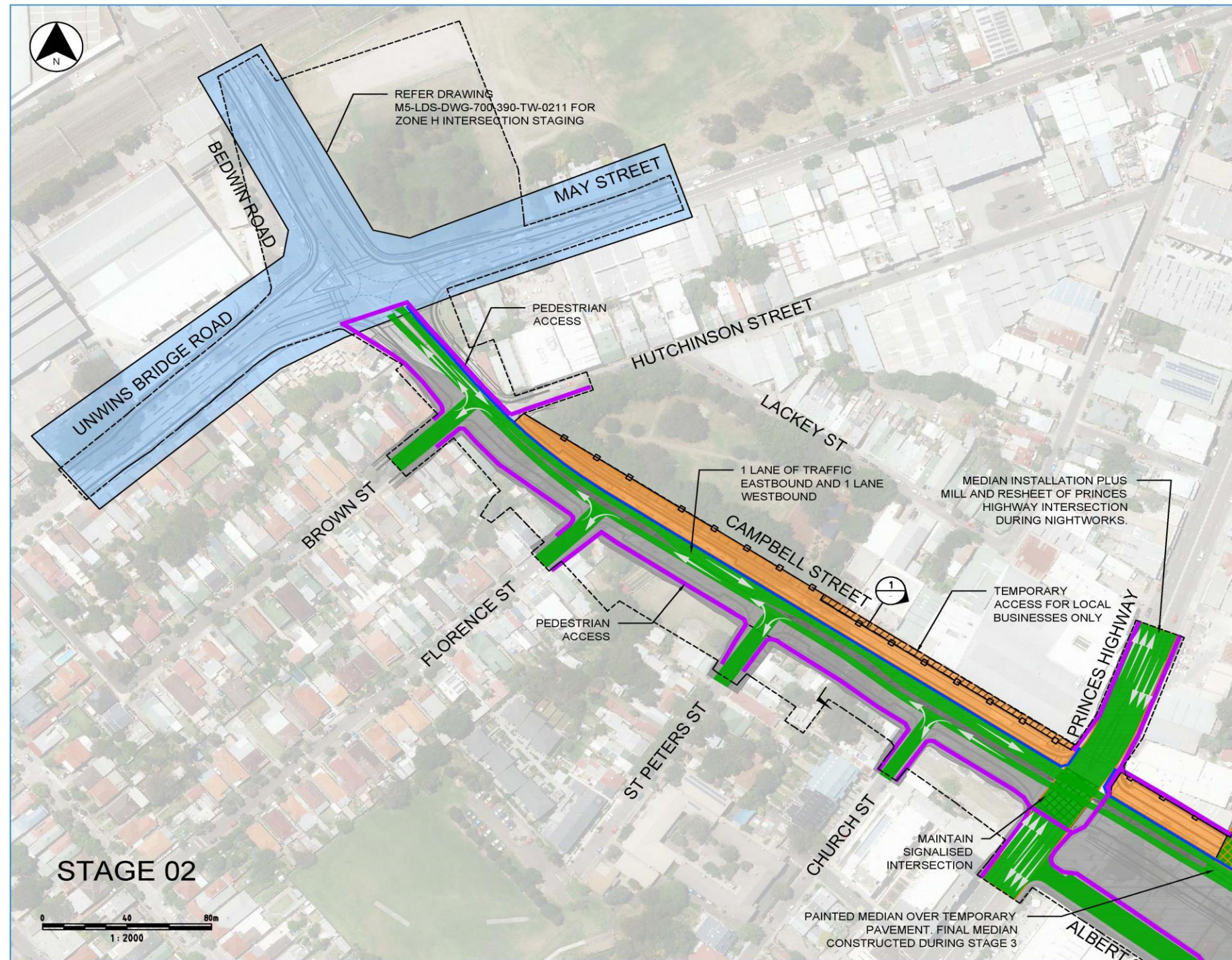


Figure 42: Local Road Upgrade Staging- Zones A & B (Stage 2) Campbell Street



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONES A & B - STAGE 2 CAMPBELL STREET

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

SCOPE

TRAFFIC STAGING

- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
- PROPERTY ACCESS MAINTAINED AT ALL TIMES

CONSTRUCTION

- RELOCATE ROAD SAFETY BARRIERS AND SITE FENCING
- RELOCATE SITE ACCESSES AS REQUIRED
- REMOVE REDUNDANT SIGNAGE AND INSTALL NEW SIGNAGE
- REMOVE AND REPAINT LINE MARKING, IF REQUIRED
- ADJUST PARKING
- EXISTING PATHS MAINTAINED WHERE POSSIBLE
- UTILITY PROTECTION AND RELOCATION WORKS
- DRAINAGE WORKS ALONG CAMPBELL STREET NORTHERN SIDE
- PAVEMENTS WIDENING AND FOOTPATHS AT CAMPBELL ROAD NORTHERN SIDE
- WORKS ALONG PRINCES HWY
- ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

KEY INTERFACES

TRAFFIC

TRAFFIC SWITCH TO STAGE TWO UNDERTAKEN MAINLY AT NIGHT UNDER SHORT TERM TRAFFIC CONTROL

LANE CONFIGURATION REMAINS UNCHANGED

REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT

EXISTING PARKING MAINTAINED WHEREVER POSSIBLE

BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)

ENVIRONMENT

MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)

INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES

COMMUNITY

EXISTING PATHS AND PARKING MAINTAINED WHERE POSSIBLE

ENTRANCE TO BUNNINGS TO BE STAGED CONSTRUCTION PROCESS

PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES

RESTRICTED PEDESTRIAN ACCESS TO PROPERTIES ON THE NORTHERN SIDE OF CAMPBELL STREET

EXISTING SERVICES

COMMENCE DIVERSION OF MAJOR SERVICES. DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

M5-LDS-DWG-700-390-TW-0203

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

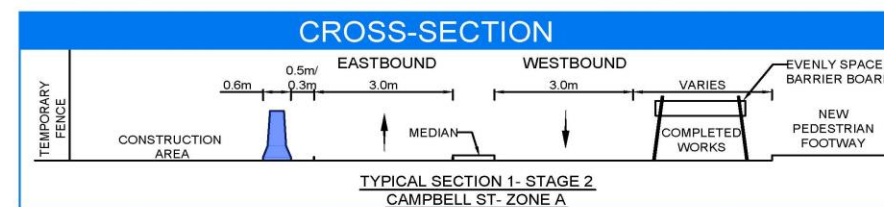
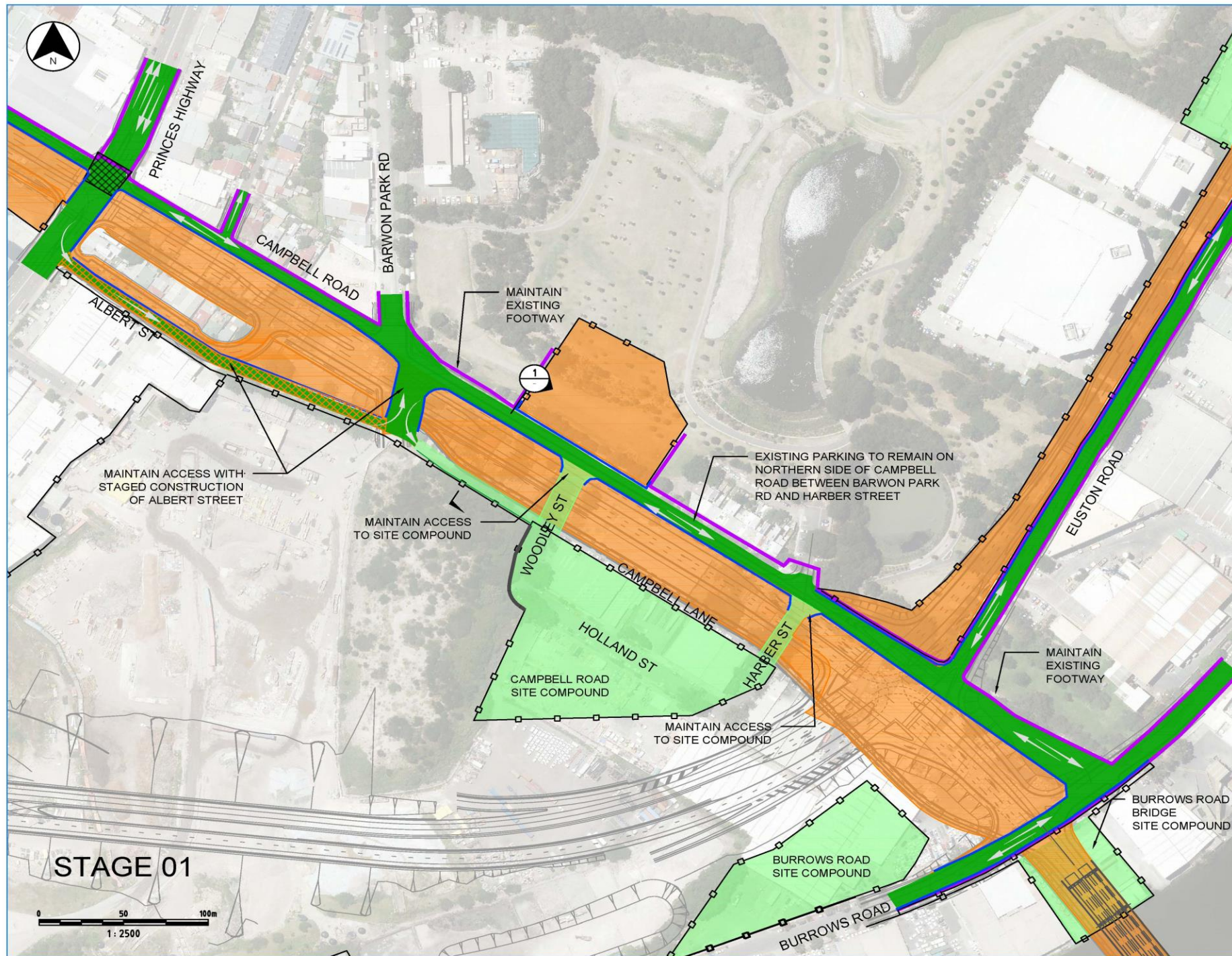


Figure 43: Local Road Upgrade Staging- Zone C (Stage 1) Campbell Road



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE C - STAGE 1 CAMPBELL ROAD

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE SITE COMPOUND 	<p>KEY</p>

SCOPE

TRAFFIC STAGING

- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
- PROPERTY ACCESS MAINTAINED AT ALL TIMES

CONSTRUCTION WORKS

- INSTALL ROAD SAFETY BARRIERS AND SITE FENCING
- ESTABLISH SITE ACCESSES
- REMOVE REDUNDANT SIGNAGE AND INSTALL NEW CONSTRUCTION RELATED SIGNAGE
- REMOVE AND REPAINT LINE MARKING, IF REQUIRED
- EXISTING PATHS MAINTAINED WHERE POSSIBLE
- ADJUST PARKING
- DEMOLITION OF EXISTING BUILDINGS
- MAIN SITE ESTABLISHMENT
- UTILITY PROTECTION AND RELOCATION WORKS
- DRAINAGE WORKS ALONG CAMPBELL ROAD
- RETAINING WALLS TO CAMPBELL AND EUSTON ROAD
- PAVEMENTS WIDENING AT CAMPBELL ROAD SOUTHERN SIDE AND BURROWS ROAD
- STAGE 3 CUT & COVER
- CAMPBELL ROAD PEDESTRIAN & CYCLE PATH BRIDGE
- NORTHERN RAMPS PEDESTRIAN AND CYCLE BRIDGE
- ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

KEY INTERFACES

TRAFFIC

- EXISTING LANE CONFIGURATION REMAINS UNCHANGED
- PARKING MAINTAINED WHEREVER POSSIBLE
- BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
- INTERFACES AT ALBERT STREET FOR LOCAL BUSINESSES

ENVIRONMENT

- MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
- INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES

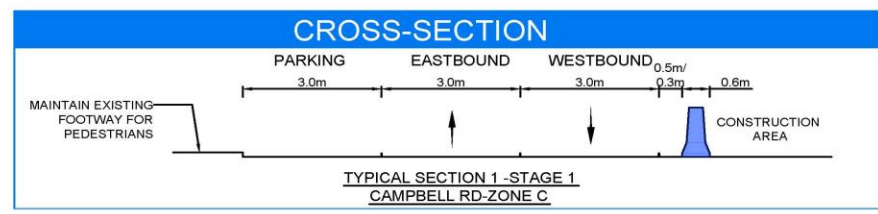
COMMUNITY

- NIGHT WORKS ON ALL LOCAL ROADS WHERE WORKS ARE PLANNED
- EXISTING PATHS MAINTAINED WHERE POSSIBLE

EXISTING SERVICES

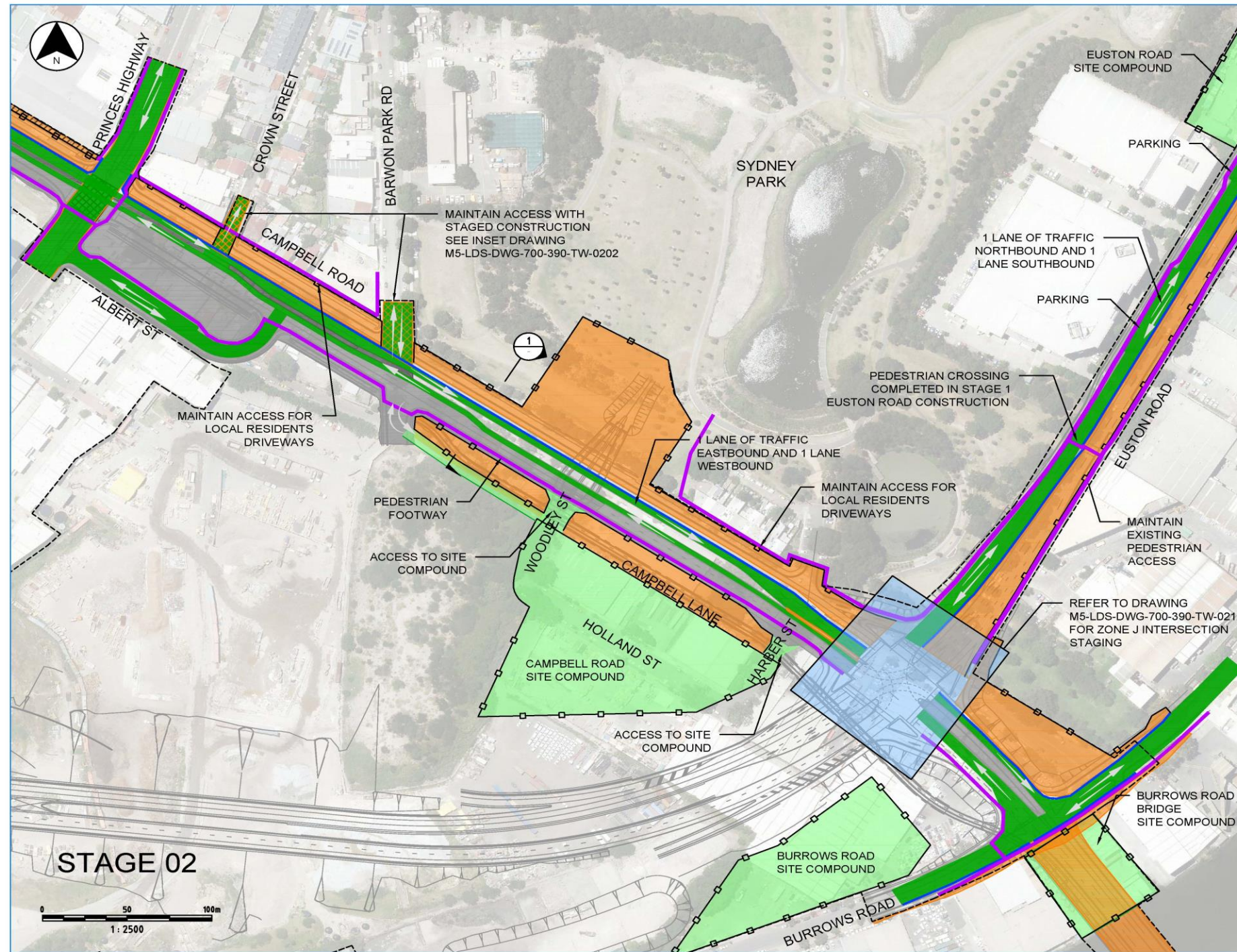
- COMMENCE DIVERSION OF MAJOR SERVICES. DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												



M5-LDS-DWG-700-390-TW-0204

Figure 44: Local Road Upgrade Staging- Zone C (Stage 2) Campbell Road



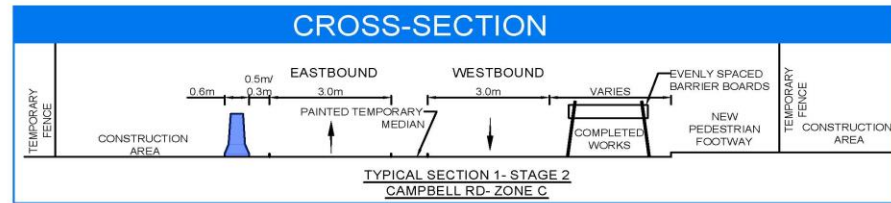
WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE C - STAGE 2 CAMPBELL ROAD

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

- ### SCOPE
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS**
- INSTALL ROAD SAFETY BARRIERS AND SITE FENCING
 - ESTABLISH SITE ACCESSSES
 - REMOVE REDUNDANT SIGNAGE AND INSTALL NEW CONSTRUCTION RELATED SIGNAGE
 - REMOVE AND REPAINT LINE MARKING, IF REQUIRED
 - EXISTING PATHS MAINTAINED WHERE POSSIBLE
 - ADJUST PARKING
 - UTILITY PROTECTION AND RELOCATION WORKS
 - DRAINAGE WORKS ALONG CAMPBELL ROAD NORTHERN SIDE
 - PAVEMENTS WIDENING AND FOOTPATHS AT CAMPBELL ROAD NORTHERN SIDE
 - CAMPBELL ROAD PEDESTRIAN & CYCLE PATH BRIDGE
 - ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

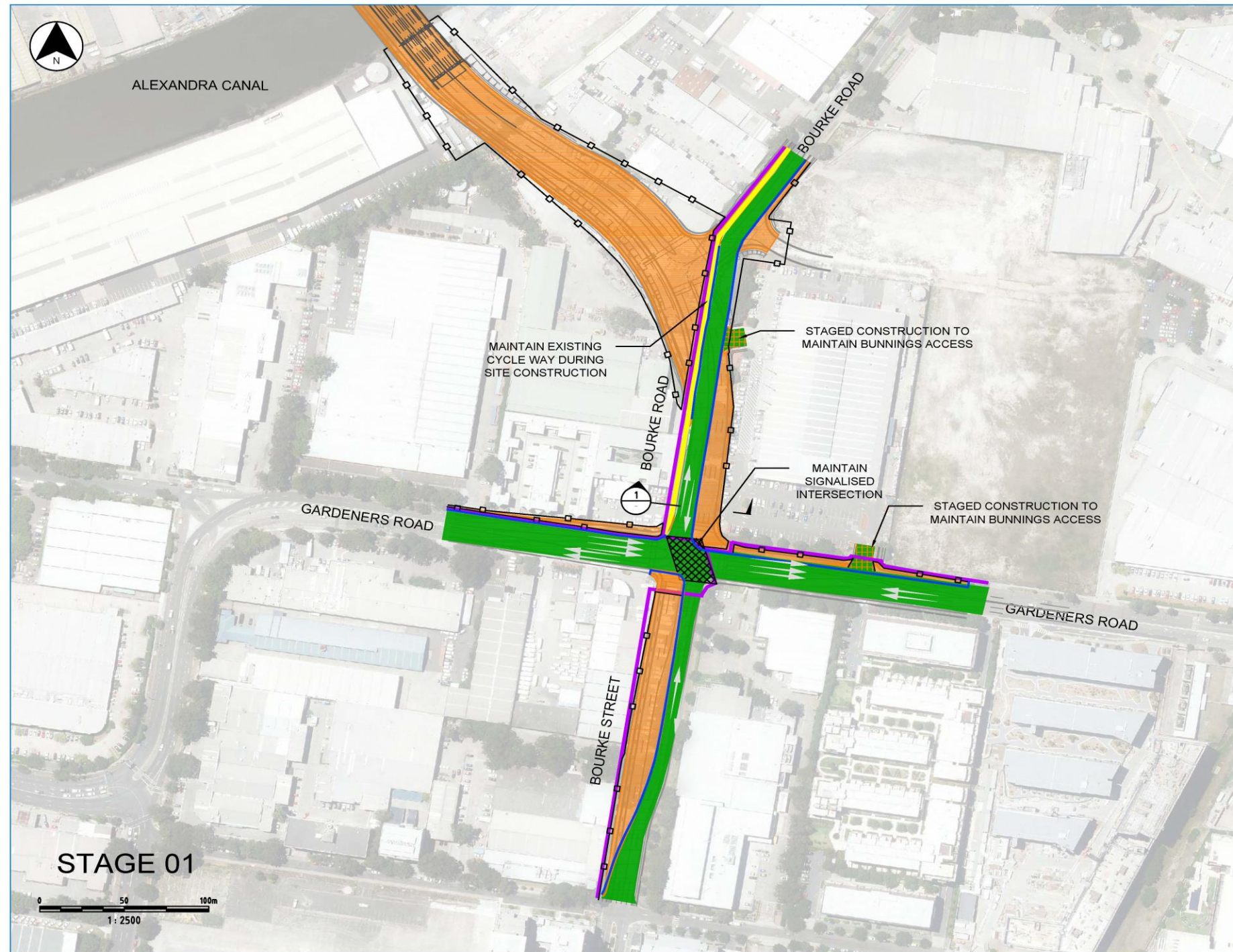
- ### KEY INTERFACES
- TRAFFIC**
EXISTING LANE CONFIGURATION REMAINS UNCHANGED
REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT
PARKING MAINTAINED WHEREVER POSSIBLE
BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
INTERFACES AT CROWN STREET, BARWON PARK ROAD AND HARBER STREET
- ENVIRONMENT**
MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES
- COMMUNITY**
NIGHT WORKS ON ALL LOCAL ROADS WHERE WORKS ARE PLANNED
EXISTING PATHS AND PARKING MAINTAINED WHERE POSSIBLE
PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES
RESTRICTED ACCESS TO PROPERTIES ON THE NORTHERN SIDE OF CAMPBELL STREET NEAR EUSTON ROAD
- EXISTING SERVICES**
COMMENCE DIVERSION OF MAJOR SERVICES.
DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												



M5-LDS-DWG-700-390-TW-0205

Figure 45: Local Road Upgrade Staging- Zone E (Stage 1) Bourke Road



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE E - STAGE 1 BOURKE ROAD

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE CYCLEWAY 	<p>KEY</p>

- ### SCOPE
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS**
- INSTALL ROAD SAFETY BARRIERS AND SITE FENCING
 - ESTABLISH SITE ACCESSES
 - REMOVE ANY REDUNDANT SIGNAGE AND INSTALL ANY NEW (CONSTRUCTION RELATED) SIGNAGE
 - REMOVE AND REPAINT LINE MARKING, IF REQUIRED
 - CLOSE AND/OR REALIGN PEDESTRIAN PATHS. EXISTING PATHS MAINTAINED WHERE POSSIBLE
 - ADJUST PARKING
 - DEMOLITION OF EXISTING BUILDINGS
 - UTILITY PROTECTION AND RELOCATION WORKS
 - DRAINAGE WORKS ALONG BOURKE ROAD/STREET AND GARDENERS ROAD
 - RETAINING WALLS AND GROUND TREATMENT TO CAMPBELL ROAD BRIDGE (EASTERN SIDE)
 - PAVEMENTS WIDENING AT BOURKE ROAD/STREET AND GARDENERS ROAD
 - TRAFFIC SIGNALS
 - ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

KEY INTERFACES

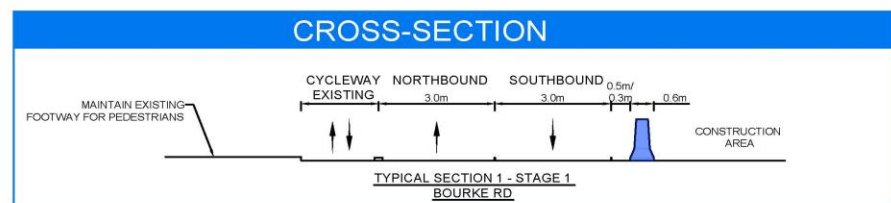
TRAFFIC
EXISTING LANE CONFIGURATION REMAINS UNCHANGED
REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT
PARKING MAINTAINED WHEREVER POSSIBLE
BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
INTERFACES AT BUNNINGS

ENVIRONMENT
MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES

COMMUNITY
EXISTING PATHS AND PARKING MAINTAINED WHERE POSSIBLE
ENTRANCE TO BUNNINGS TO BE STAGED CONSTRUCTION PROCESS
PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES
RESTRICTED ACCESS TO PROPERTIES ON THE NORTHERN SIDE OF GARDENERS ROAD AND BOURKE

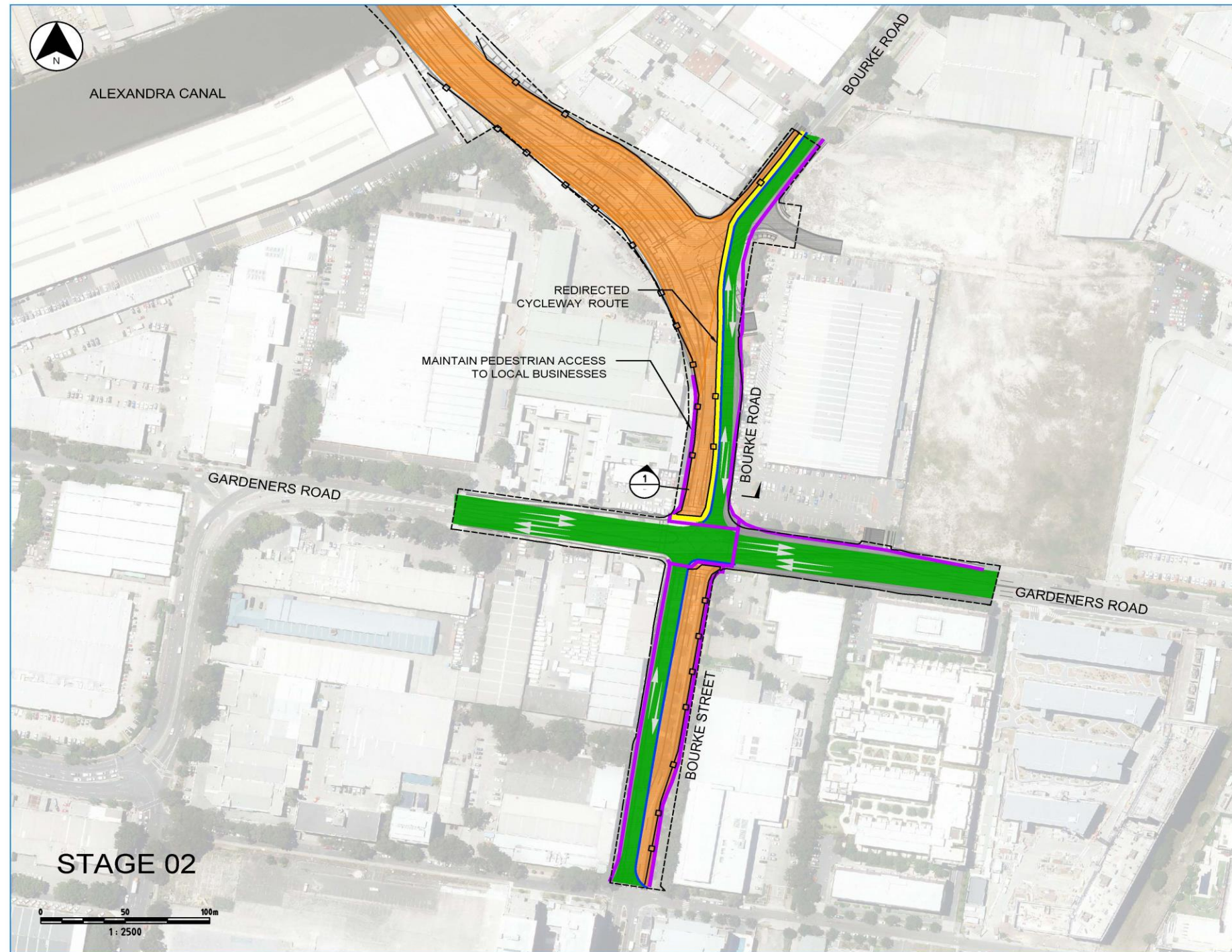
EXISTING SERVICES
COMMENCE DIVERSION OF MAJOR SERVICES.
DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												



M5-LDS-DWG-700-390-TW-0206

Figure 46: Local Road Upgrade Staging- Zone E (Stage 2) Bourke Road



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE E - STAGE 2 BOURKE ROAD

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE CYCLEWAY 	<p>KEY</p>

SCOPE

TRAFFIC STAGING

- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
- PROPERTY ACCESS MAINTAINED AT ALL TIMES

CONSTRUCTION WORKS

- RELOCATE ROAD SAFETY BARRIERS AND SITE FENCING
- REMOVE AND REPAINT LINE MARKING, IF REQUIRED
- EXISTING PATHS MAINTAINED WHERE POSSIBLE
- ADJUST PARKING
- UTILITY PROTECTION AND RELOCATION WORKS
- DRAINAGE WORKS ALONG BOURKE ROAD AND BOURKE STREET
- RETAINING WALLS AND GROUND TREATMENT TO CAMPBELL ROAD BRIDGE (EASTERN SIDE)
- PAYEMENTS WIDENING AT BOURKE ROAD AND BOURKE STREET
- TRAFFIC SIGNALS
- ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

KEY INTERFACES

TRAFFIC
TRAFFIC SWITCH TO STAGE 2
LANE CONFIGURATION REMAINS UNCHANGED
REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT
EXISTING PARKING MAINTAINED WHEREVER POSSIBLE
BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
INTERFACES FROM CONSTRUCTION WORK AREAS INTO THE LOCAL TRAFFIC NETWORK

ENVIRONMENT
MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES

COMMUNITY
EXISTING PATHS AND PARKING MAINTAINED WHERE POSSIBLE
PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES
RESTRICTED ACCESS TO PROPERTIES ALONG BOURKE ROAD

EXISTING SERVICES
COMMENCE DIVERSION OF MAJOR SERVICES.
DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

M5-LDS-DWG-700-390-TW-0207

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

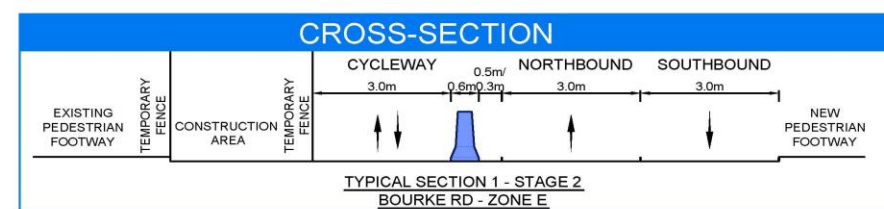


Figure 47: Local Road Upgrade Staging- Zone F (Stage 1) Euston Road



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE F - STAGE 1 EUSTON ROAD

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

- ### SCOPE
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS**
- INSTALL ROAD SAFETY BARRIERS AND SITE FENCING
 - ESTABLISH SITE ACCESSES
 - REMOVE REDUNDANT SIGNAGE AND INSTALL NEW (CONSTRUCTION RELATED) SIGNAGE
 - REMOVE AND REPAINT LINE MARKING, IF REQUIRED
 - EXISTING PATHS MAINTAINED WHERE POSSIBLE
 - ADJUST PARKING
 - DEMOLITION OF MINOR ITEMS AND CLEARING OF AREA
 - UTILITY PROTECTION AND RELOCATION WORKS
 - BRIDGE WIDENING TO EXISTING MUNNI STREET CHANNEL
 - DRAINAGE WORKS ALONG EUSTON ROAD
 - PAVEMENTS WIDENING AT EUSTON ROAD EASTERN SIDE
 - ROAD FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

KEY INTERFACES

TRAFFIC
EXISTING LANE CONFIGURATION REMAINS UNCHANGED
REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT
EXISTING PARKING MAINTAINED WHEREVER POSSIBLE
BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
THERE WILL BE INTERFACES ALONG EUSTON ROAD WITH EXISTING BUSINESSES
TEMPORARY PUBLIC CARPARK WILL BE PROVIDED WHEN PARKING LANES ON WESTERN SIDE OF EUSTON ROAD ARE REMOVED FOR CONSTRUCTION WORKS.

ENVIRONMENT
MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
INSTALL ENVIRONMENTAL CONTROLS AT SITE GATES
INSTALL EROSION AND SEDIMENT CONTROLS TO MINIMISE WATER QUALITY IMPACTS TO MUNNI STREET CHANNEL DURING CONSTRUCTION

COMMUNITY
DRIVEWAYS TO BUSINESSES WILL BE MAINTAINED
NIGHT WORKS ON ALL LOCAL ROADS WHERE WORKS ARE PLANNED
EXISTING PATHS MAINTAINED WHERE POSSIBLE
EXISTING PARKING MAINTAINED WHEREVER POSSIBLE

EXISTING SERVICES
COMMENCE DIVERSION OF MAJOR SERVICES.
DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

M5-LDS-DWG-700-390-TW-0208

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

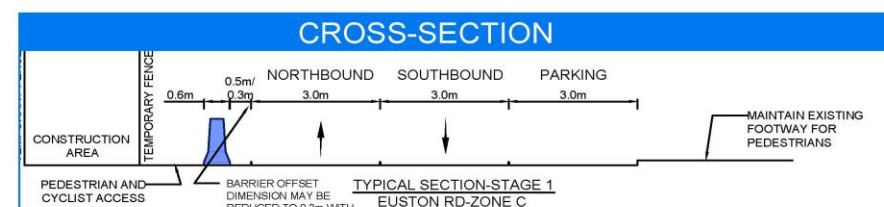
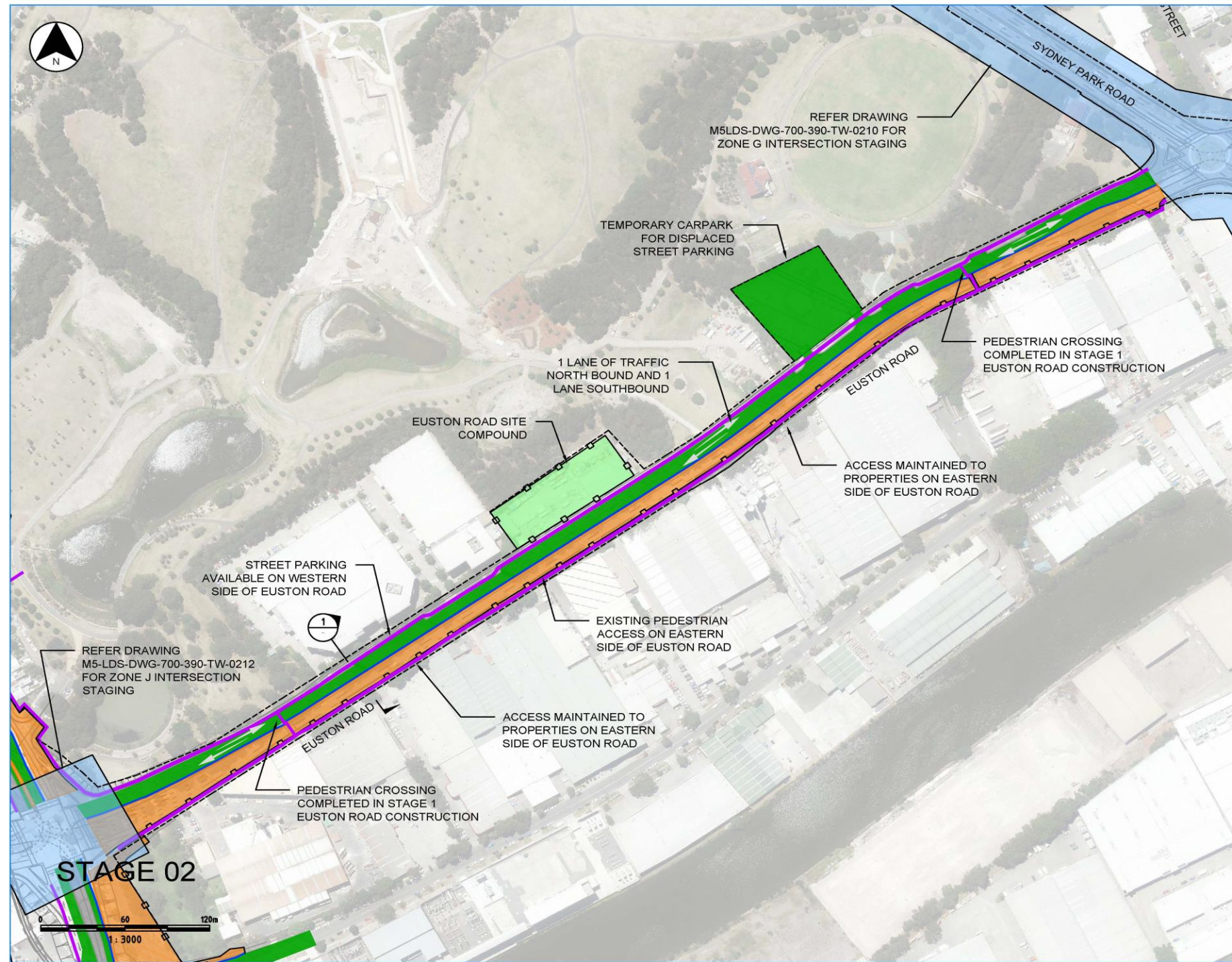


Figure 48: Local Road Upgrade Staging- Zone F (Stage 2) Euston Road



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE F - STAGE 2 EUSTON ROAD

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

SCOPE

TRAFFIC STAGING

- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
- PROPERTY ACCESS MAINTAINED AT ALL TIMES

CONSTRUCTION WORKS

- RELOCATE ROAD SAFETY BARRIERS AND SITE FENCING WHERE REQUIRED
- REMOVE REDUNDANT SIGNAGE AND INSTALL NEW (CONSTRUCTION RELATED) SIGNAGE WHERE REQUIRED
- REMOVE AND REPAINT LINE MARKING, IF REQUIRED
- EXISTING PATHS MAINTAINED WHERE POSSIBLE
- ADJUST PARKING
- UTILITY PROTECTION AND RELOCATION WORKS
- PEDESTRIAN CROSSING COMPLETED AND OPERATIONAL
- DRAINAGE WORKS ALONG EUSTON ROAD
- PAVEMENTS WIDENING AT EUSTON ROAD (PAVEMENT REBUILD)
- FURNITURE INCLUDING BARRIERS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

KEY INTERFACES

TRAFFIC

TRAFFIC SWITCH TO STAGE 2
REGULAR SHORT TERM TRAFFIC CONTROL DAY AND NIGHT
EXISTING PARKING MAINTAINED WHEREVER POSSIBLE
BUS STOPS MAINTAINED OR RELOCATED (SHORT DISTANCES ONLY)
THERE WILL BE INTERFACES ALONG EUSTON ROAD WITH EXISTING BUSINESSES
TEMPORARY PUBLIC CARPARK WILL BE PROVIDED WHEN PARKING LANES ON EASTERN SIDE OF EUSTON ROAD ARE REMOVED FOR CONSTRUCTION WORKS.
PEDESTRIAN CROSSING WILL PROVIDE ACCESS ACROSS EUSTON ROAD

ENVIRONMENT

MANAGE WASTE FROM DEMOLITION OF PROPERTIES IN ACCORDANCE WITH WASTE HIERARCHY AND EPA (WHERE REQUIRED)
MAINTAIN ENVIRONMENTAL CONTROLS AT SITE GATES
MAINTAIN AND INSTALL EROSION AND SEDIMENT CONTROLS TO MINIMISE WATER QUALITY IMPACTS TO MUNNI STREET CHANNEL DURING CONSTRUCTION

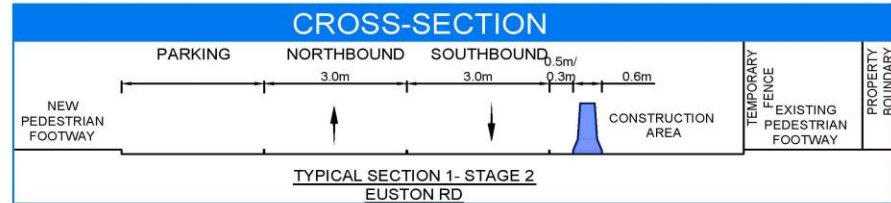
COMMUNITY

DRIVEWAYS TO BUSINESSES WILL BE MAINTAINED
NIGHT WORKS ON ALL LOCAL ROADS WHERE WORKS ARE PLANNED
EXISTING PATHS MAINTAINED WHERE POSSIBLE
EXISTING PARKING MAINTAINED WHEREVER POSSIBLE

EXISTING SERVICES

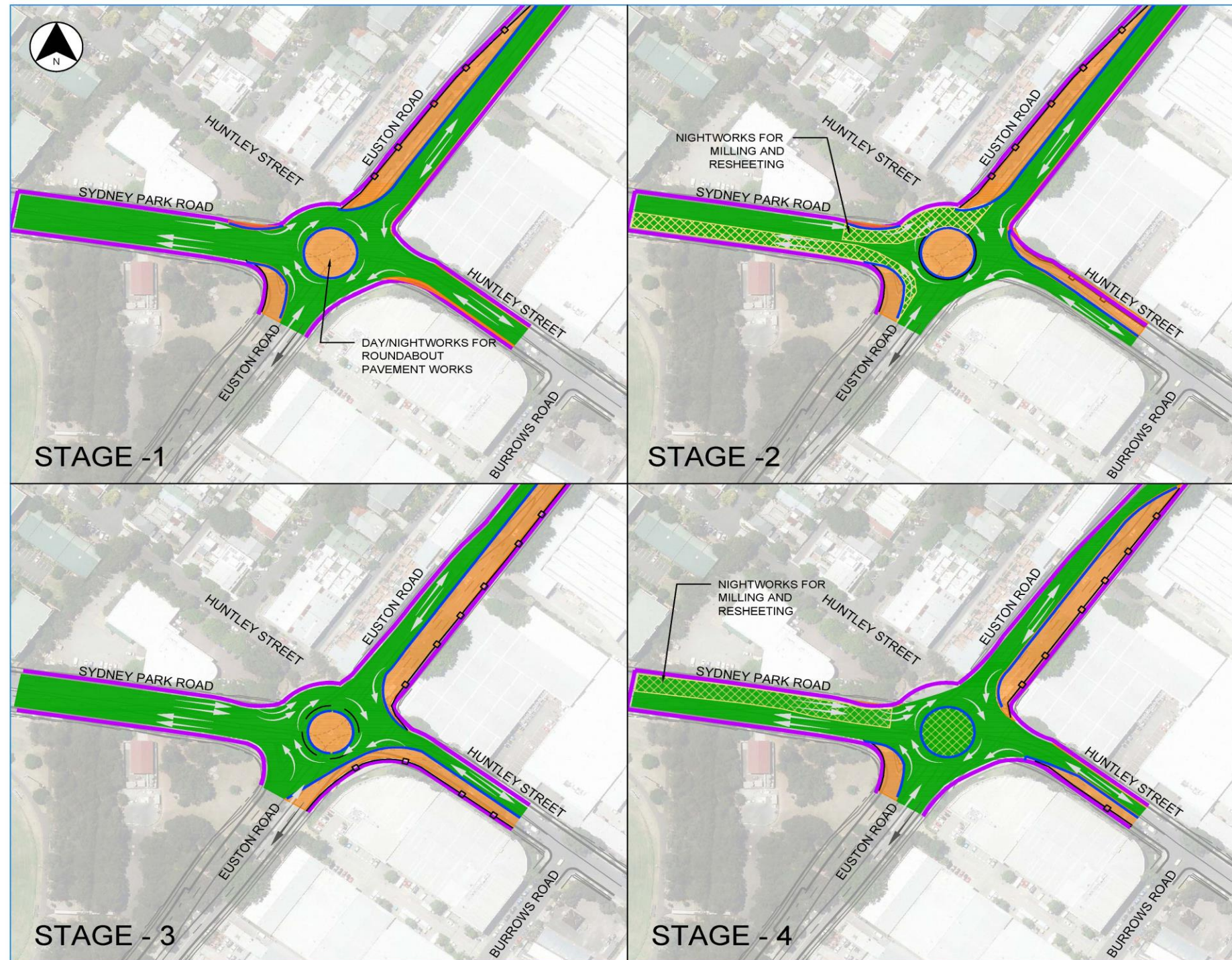
COMMENCE DIVERSION OF MAJOR SERVICES.
DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												



M5-LDS-DWG-700-390-TW-0209

Figure 49: Local Road Upgrade Staging- Zone G Sydney Park Road Intersection



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE G - SYDNEY PARK ROAD INTERSECTION

LEGEND		KEY
	TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES	
	CONSTRUCTION AREAS	
	STAGED TRAFFIC ACCESS	
	WORKS COMPLETE	
	WORKSITE COMPOUND	
	PEDESTRIAN ROUTE	
	TEMPORARY ROAD SAFETY BARRIER SYSTEM	
	TEMPORARY CHAIN WIRE FENCE	

- ### SCOPE
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS - STAGE 1**
- INSTALL ROAD SAFETY BARRIERS AND SITE FENCING TO EUSTON ROAD
 - CLEARING AND DEMOLITION (MINOR) OF THE AREAS
 - UTILITY PROTECTION AND RELOCATION WORKS
 - DRAINAGE WORKS ALONG EUSTON ROAD
- CONSTRUCTION WORKS - STAGE 2**
- PAVEMENTS WIDENING AT EUSTON ROAD
 - ROAD FURNITURE INCLUDING FOOTPATHS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS
 - MILL & RESHEET OF SYDNEY PARK ROAD DURING NIGHT
 - IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING TO HUNTLEY STREET
 - DRAINAGE WORKS ALONG HUNTLEY STREET
 - PAVEMENTS WORKS AT HUNTLEY STREET (PAVEMENT REBUILD)
 - CONSTRUCTION IN CENTRAL ROUNDABOUT
 - ROAD FURNITURE INCLUDING KERB AND CHANNEL, ROAD MARKING, SIGNAGE
- CONSTRUCTION WORKS - STAGE 3**
- IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING TO EUSTON ROAD (EASTERN SIDE)
 - UTILITY PROTECTION AND RELOCATION WORKS
 - DRAINAGE WORKS ALONG EUSTON ROAD (IF REQUIRED)
 - PAVEMENTS WIDENING AT EUSTON ROAD (PAVEMENT REBUILD)
 - ROAD FURNITURE INCLUDING FOOTPATHS, KERB AND CHANNEL (IF REQUIRED), ROAD MARKING AND SIGNAGE
 - MILL & RESHEET OF SYDNEY PARK ROAD DURING NIGHT
 - CONSTRUCTION IN CENTRAL ROUNDABOUT
 - IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING TO HUNTLEY STREET
 - DRAINAGE WORKS ALONG HUNTLEY STREET
 - PAVEMENTS WORKS AT HUNTLEY STREET (PAVEMENT REBUILD)
 - ROAD FURNITURE INCLUDING KERB AND CHANNEL, ROAD MARKING, SIGNAGE
- CONSTRUCTION WORKS - STAGE 4**
- MAINTAIN TRAFFIC CONTROLS AND SITE BARRIERS/FENCING
 - PAVEMENTS WIDENING AT EUSTON ROAD (PAVEMENT REBUILD)
 - ROAD FURNITURE INCLUDING FOOTPATHS, KERB AND CHANNEL (IF REQUIRED), ROAD MARKING AND SIGNAGE
 - MILL & RESHEET OF SYDNEY PARK ROAD DURING NIGHT
 - COMPLETION OF PAVEMENT IN CENTRAL ROUNDABOUT
 - COMPLETE MEDIAN AT INTERSECTION
 - IMPLEMENT TRAFFIC SIGNALS AT INTERSECTION
 - ROAD FURNITURE INCLUDING KERB AND CHANNEL, ROAD MARKING AND SIGNAGE
- Logos for DRAGADOS, SAMSUNG, aurecon JACOBS, and SAMSUNG C&T are shown at the bottom of the scope section.

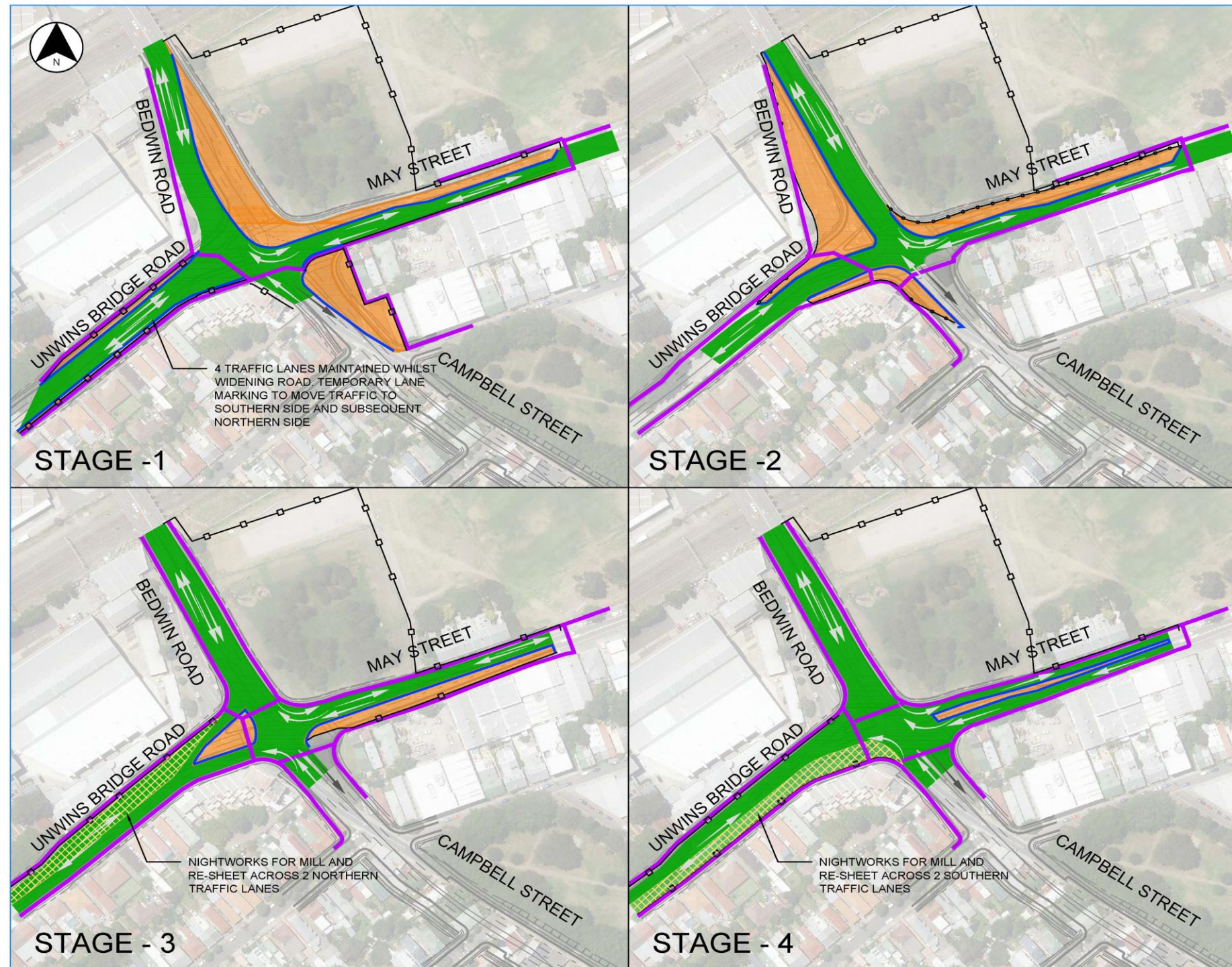
PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

KEY INTERFACES

<p>TRAFFIC</p> <ul style="list-style-type: none"> MEDIUM CONSTRUCTION IMPACT ON TRAFFIC TYPE F BARRIERS WILL BE INSTALLED AROUND CENTRE OF ROUNDABOUT CONSTRUCTION WORKS AT NIGHT WITH SOME LANE CLOSURES AND DIVERSIONS <p>COMMUNITY</p> <ul style="list-style-type: none"> PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES RESTRICTED ACCESS TO PROPERTIES ON THE EUSTON ROAD AND HUNTLEY STREET 	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> INSTALLATION OF ENVIRONMENTAL CONTROLS PRIOR TO THE COMMENCEMENT OF STAGE 1 MANAGE EXCAVATION DURING EARTHWORKS <p>EXISTING SERVICES</p> <ul style="list-style-type: none"> COMMENCE DIVERSION OF MAJOR SERVICES DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.
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M5-LDS-DWG-700-390-TW-0210

Figure 50: Local Road Upgrade Staging- Zone H - May Street Intersection



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE H - MAY STREET INTERSECTION

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

- ### SCOPE
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS - STAGE 1**
- IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING TO BEDWIN ROAD, MAY ST AND CAMPBELL STREET
 - DEMOLITION OF EXISTING BUILDINGS
 - UTILITY PROTECTION AND RELOCATION WORKS
 - RETAINING WALL TO BEDWIN ROAD AND MAY STREET
 - DRAINAGE WORKS ALONG BEDWIN ROAD, MAY ST AND CAMPBELL STREET AND CONSTRUCTION OF DETENTION WORKS IN CAMDENVILLE PARK
 - PAVEMENTS WIDENING AT BEDWIN ROAD AND CAMPBELL STREET
 - PAVEMENT WIDENING TO UNWINS BRIDGE ROAD (POTENTIAL THIS MAY BE MOVED TO STAGE 2)
 - ROAD FURNITURE INCLUDING KERB AND CHANNEL, ROAD MARKING AND SIGNAGE AT BEDWIN ROAD
- CONSTRUCTION WORKS - STAGE 2**
- IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING TO BEDWIN ROAD AND CAMPBELL STREET
 - CLEARING AND DEMOLITION OF EXISTING AREA
 - UTILITY PROTECTION AND RELOCATION WORKS

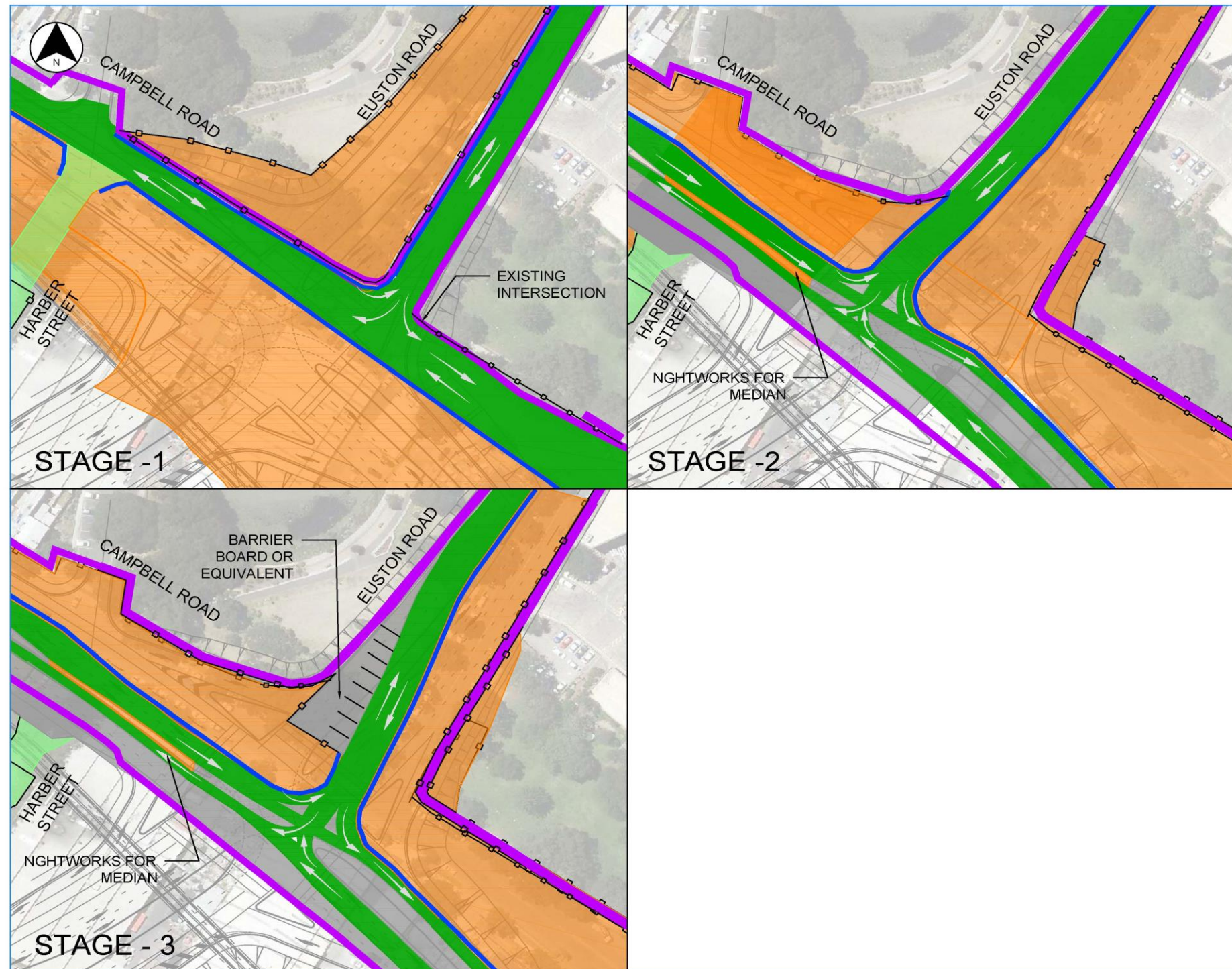
- ### KEY INTERFACES
- CONSTRUCTION WORKS - STAGE 3**
- IMPLEMENT TRAFFIC CONTROLS/SITE BARRIERS/FENCING TO MAY STREET (EASTERN SIDE)
 - UTILITY PROTECTION AND RELOCATION WORKS
 - DRAINAGE WORKS ALONG MAY STREET
 - PAVEMENTS WIDENING AT MAY STREET (PAVEMENT REBUILD)
 - MEDIAN CONSTRUCTION WORKS AT INTERSECTION
 - PAVEMENT MILL AND RESHEET AT UNWINS BRIDGE ROAD
 - ROAD FURNITURE INCLUDING FOOTPATHS, KERB AND CHANNEL (IF REQUIRED), ROAD MARKING AND SIGNAGE
- CONSTRUCTION WORKS - STAGE 4**
- IMPLEMENT TRAFFIC CONTROLS/SITE BARRIERS/FENCING
 - PAVEMENT MILL AND RESHEET AT UNWINS BRIDGE ROAD
 - MEDIAN WORKS ALONG MAY STREET
 - COMPLETION OF INTERSECTION TRAFFIC SIGNALS
 - ROAD FURNITURE INCLUDING ROAD MARKING AND SIGNAGE

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

- | | |
|--|--|
| <p>TRAFFIC</p> <ul style="list-style-type: none"> MEDIUM CONSTRUCTION IMPACT ON TRAFFIC TYPE F BARRIERS INSTALLED AROUND CENTRE OF ROUNDABOUT CONSTRUCTION WORKS AT NIGHT WITH SOME LANE CLOSURES AND DIVERSIONS <p>COMMUNITY</p> <ul style="list-style-type: none"> PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES RESTRICTED ACCESS TO PROPERTIES ON MAY STREET, CAMPBELL STREET AND UNWINS BRIDGE ROAD | <p>ENVIRONMENT</p> <ul style="list-style-type: none"> INSTALLATION OF ENVIRONMENTAL CONTROLS PRIOR TO THE COMMENCEMENT OF STAGE 1 MANAGE EXCAVATION DURING EARTHWORKS <p>EXISTING SERVICES</p> <ul style="list-style-type: none"> DIVERSION OF MAJOR SERVICES. DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS. |
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M5-LDS-DWG-700-390-TW-0211

Figure 51: Local Road Upgrade Staging- Zone J Euston Road Intersection



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING ZONE J - EUSTON ROAD INTERSECTION

LEGEND	KEY
<p>LEGEND</p> <ul style="list-style-type: none"> TRAFFIC LANES - ARROWS INDICATES TRAFFIC DIRECTION AND NUMBER OF LANES CONSTRUCTION AREAS STAGED TRAFFIC ACCESS WORKS COMPLETE WORKSITE COMPOUND PEDESTRIAN ROUTE TEMPORARY ROAD SAFETY BARRIER SYSTEM TEMPORARY CHAIN WIRE FENCE 	<p>KEY</p>

SCOPE

- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS - STAGE 1**
- IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING
 - TRAFFIC IS RETAINED ON THE EXISTING CAMPBELL RD & EUSTON RD CARRIAGEWAYS & NEW WORKS ARE CARRIED OUT OFF-LINE
 - DEMOLITION OF MINOR ITEMS AND CLEARING OF AREA
 - UTILITY PROTECTION AND RELOCATION WORKS
 - PAVEMENT WIDENING TO SOUTH SIDE OF EXISTING CAMPBELL RD.
 - PAVEMENT WIDENING TO WEST SIDE OF EXISTING EUSTON RD.
 - DRAINAGE WORKS
 - ROAD FURNITURE INCLUDING MEDIANS, FOOTPATHS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS.
- CONSTRUCTION WORKS - STAGE 2**
- TRAFFIC SWITCH TO STAGE 2
 - IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING
 - UTILITY PROTECTION AND RELOCATION WORKS CONTINUING.
 - PAVEMENT WIDENING TO EAST SIDE EUSTON (RE-BUILD OF EXISTING AND FULL DEPTH CONSTRUCTION).
 - PAVEMENT WIDENING TO NORTH SIDE CAMPBELL (RE-BUILD OF EXISTING AND FULL DEPTH CONSTRUCTION).
 - DRAINAGE WORKS CONTINUING
 - ROAD FURNITURE WORKS CONTINUING
- CONSTRUCTION WORKS - STAGE 3**
- TRAFFIC SWITCH TO STAGE 3
 - IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING.
 - COMPLETION OF UTILITY PROTECTION AND RELOCATION WORKS.
 - COMPLETION OF PAVEMENT WIDENING TO EAST SIDE OF EUSTON (RE-BUILD OF EXISTING AND FULL DEPTH CONSTRUCTION).
 - COMPLETION OF PAVEMENT WIDENING TO NORTH SIDE CAMPBELL (RE-BUILD OF EXISTING AND FULL DEPTH CONSTRUCTION).
 - COMPLETION OF DRAINAGE WORKS.
 - COMPLETION OF ROAD FURNITURE INCLUDING MEDIANS, FOOTPATHS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

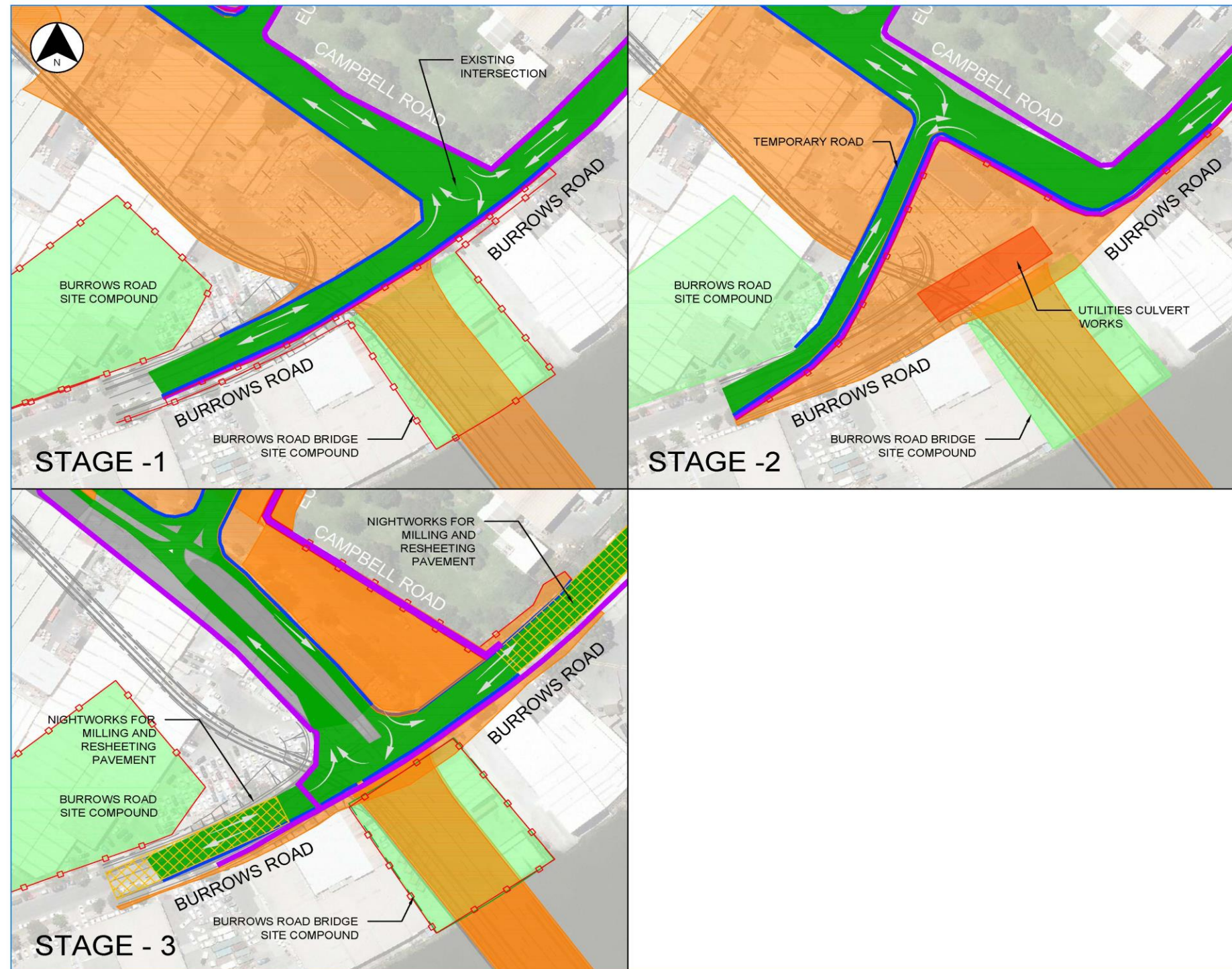
PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JLY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

KEY INTERFACES	
<p>TRAFFIC</p> <ul style="list-style-type: none"> INTERFACES ALONG EUSTON ROAD WITH EXISTING BUSINESSES CONSTRUCTION WORKS AT NIGHT WITH SOME LANE CLOSURES AND DIVERSIONS <p>COMMUNITY</p> <ul style="list-style-type: none"> PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES DRIVEWAYS TO BUSINESSES WILL BE MAINTAINED 	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> INSTALL EROSION AND SEDIMENT CONTROLS TO MINIMISE WATER QUALITY IMPACTS TO ALEXANDRA CANAL DURING CONSTRUCTION MANAGE WASTE FROM CLEARING AND EXCAVATION WORKS ADJACENT TO SYDNEY PARK <p>EXISTING SERVICES</p> <ul style="list-style-type: none"> DIVERSION OF MAJOR SERVICES. DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.

DRAGADOS SAMSUNG C&T
WestConnex STAGE 2 M5
aurecon JACOBS HANSELL

M5-LDS-DWG-700-390-TW-0212

Figure 52: Local Road Upgrade Staging- Zone G Burrows Road Intersection



WESTCONNEX STAGE 2 NEW M5 MAIN WORKS DESIGN & CONSTRUCT LOCAL ROAD UPGRADES TRAFFIC AND CONSTRUCTION STAGING BURROWS ROAD INTERSECTION

LEGEND	KEY

SCOPE

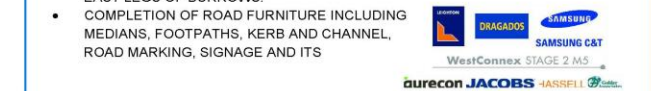
- TRAFFIC STAGING**
- ALL BLUNT BARRIER ENDS WILL BE PROTECTED WITH SUITABLE END PROTECTION (CRASH CUSHION).
 - PROPERTY ACCESS MAINTAINED AT ALL TIMES
- CONSTRUCTION WORKS - STAGE 1**
- IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING.
 - SITE ESTABLISHMENT AT BURROWS RD SITE COMPOUND
 - TRAFFIC IS RETAINED ON THE EXISTING CAMPBELL RD & BURROWS RD CARRIAGEWAYS & NEW WORKS ARE CARRIED OUT OFF-LINE.
 - THERE WILL BE MINIMAL DISRUPTION TO TRAFFIC AT THIS STAGE AS THE EXISTING TRAFFIC LANES AND MOVEMENTS WILL BE RETAINED
 - DEMOLITION OF MINOR ITEMS AND CLEARING OF AREA.
 - UTILITY PROTECTION AND RELOCATION WORKS.
 - PAVEMENT WIDENING TO SOUTH SIDE OF EXISTING CAMPBELL RD.
 - FILL & PAVEMENT CONSTRUCTION (REBUILD & FULL DEPTH) TO SOUTH SIDE OF BURROWS DOWN TO NEW CANAL BRIDGE. DRAINAGE WORKS.
 - ROAD FURNITURE INCLUDING MEDIANS, FOOTPATHS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS
- CONSTRUCTION WORKS - STAGE 2**
- TRAFFIC SWITCH TO STAGE 2
 - IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING.

KEY INTERFACES

- BUILD VENTILATED PROTECTION CULVERT OVER CABLE 42 (330KV) FEEDER ON EXISTING BURROWS RD.
 - FILL AND PAVEMENT CONSTRUCTION ON EXISTING BURROWS RD.
 - FILL & PAVEMENT WORKS CONTINUING SOUTH SIDE OF BURROWS DOWN TO NEW CANAL BRIDGE.
 - DRAINAGE WORKS CONTINUING
 - ROAD FURNITURE WORKS CONTINUING.
- CONSTRUCTION WORKS - STAGE 3**
- TRAFFIC SWITCH TO STAGE 3
 - IMPLEMENT TRAFFIC CONTROLS AND SITE BARRIERS/FENCING.
 - COMPLETION OF UTILITY PROTECTION AND RELOCATION WORKS.
 - REMOVE EXISTING CAMPBELL RD PAVEMENT & INSTALL NEW LANDSCAPING.
 - COMPLETION OF FILL & PAVEMENT WORKS SOUTH SIDE OF BURROWS DOWN TO NEW CANAL BRIDGE.
 - COMPLETION OF DRAINAGE WORKS.
 - MILL & RE-SHEET EXISTING PAVEMENT (NIGHT WORKS) ON WEST & EAST LEGS OF BURROWS.
 - COMPLETION OF ROAD FURNITURE INCLUDING MEDIANS, FOOTPATHS, KERB AND CHANNEL, ROAD MARKING, SIGNAGE AND ITS

PROGRAM												
	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
2016												
2017												
2018												
2019												

<p>TRAFFIC</p> <ul style="list-style-type: none"> INTERFACES WITH EXISTING BUSINESSES ALONG BURROWS RD CONSTRUCTION WORKS AT NIGHT WITH SOME LANE CLOSURES AND DIVERSIONS <p>COMMUNITY</p> <ul style="list-style-type: none"> PEDESTRIAN ACCESS PROVIDED AROUND CONSTRUCTION SITES DRIVEWAYS TO BUSINESSES WILL BE MAINTAINED 	<p>ENVIRONMENT</p> <ul style="list-style-type: none"> MANAGE WASTE FROM CLEARING AND EXCAVATION WORKS ADJACENT TO SYDNEY PARK INSTALL EROSION AND SEDIMENT CONTROLS TO MINIMISE WATER QUALITY IMPACTS TO ALEXANDRA CANAL DURING CONSTRUCTION <p>EXISTING SERVICES</p> <ul style="list-style-type: none"> DIVERSION OF MAJOR SERVICES. DIVERSIONS WILL BE PLANNED AND PROGRAMMED TO MINIMISE DISRUPTION TO CUSTOMERS.
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M5-LDS-DWG-700-390-TW-0213

Appendix J: Traffic Transfer / Switching Procedure

10.1 Distribution

Project Manager, Traffic Manager, Civil Construction Manager, Quality Manager, Engineering Manager

RMS Representative, Independent Certifier

10.2 Scope

This procedure is a checklist to assist Project managers with the requirements relating to traffic management prior to affecting a traffic switch associated with continuing construction activity. The procedure relates to the requirements for documentation and quality control of the installation and management of approved Traffic Management Plans (TMP's), Traffic Control Plans (TCP's) and Traffic Control Signal Plans (TCS's) associated with the Hold Point release of RMS G10.

10.3 Checklist

REF	DESCRIPTION	
1	Have the appropriate approved drawings and designs for traffic staging been referenced?	Yes / No
2	Does the proposed traffic switch form part of the approved Project works and TMP / CTAP? If not, allow up to 5 weeks for this process – See Traffic Manager	Yes / No
3	Has the required community and stakeholder notification process been completed? If not, allow up to 4 weeks for this process – See Community Manager	Yes / No
4	Are all necessary ROL's, SZA's and short term TCP's in place to undertake the works If not allow up to two weeks for this process – See Traffic Manager	Yes / No
5	Are the works required to be undertaken at night?	Yes / No
6	Have all traffic management control devices been installed as per the TCP and signed off?	Yes / No
7	Has a traffic related joint agency punch list inspection of the site been carried out prior to the switch?	Yes / No
8	Is a Road Safety Audit (Pre-opening) report required? If, so have all High Risk findings been actioned?	Yes / No
9	Has a traffic switch notification in the form of a G10 Clause HP release been provided to RMS at least 24 hours in advance of the proposed switch date?	Yes / No
10	Does this switch require modification to speed zones? If so are existing controls removed?	Yes / No
11	Have facilities for pedestrians, cyclists and public transport operators been considered?	Yes / No
12	Are modifications required to traffic signals as part of this traffic switch? If yes, then; <ul style="list-style-type: none"> - Has all traffic signal hardware been installed as per the approved TCS Plan? - Have all civil works been completed in accordance with the approved TCS Plan? - Have adaptive engineering changes been completed and scheduled for installation? 	Yes / No
SIGN:		DATE:

Construction Traffic and Access Sub Plan



10.4 Post Completion Works

REF	DESCRIPTION	
	Is this traffic switch able to be implemented progressively?	Yes / No
	Does this switch require any post completion works to be undertaken? If so, list those nominated post switch activities below and the date for completion	Yes / No
SIGN:		DATE:

10.5 Amendments to IFC Drawings

REF	DESCRIPTION	DWG No.
SIGN:		DATE:

10.6 Certification

The proposed traffic switch for _____ Stage _____ is proposed for _____ and is considered compliant with the terms of this procedure.

Site / Location:

SPE / Project Engineer:

AUTHORISED

Traffic Manager:

DATE:

APPROVED - PROJECT MANAGER:
.....

DATE: