

# Appendix B1 Construction Transport and Traffic Management Sub-plan

## M12 Motorway West

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## Details of Revision Amendments

### Document Control

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


### Amendments

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

### Revision Details

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### Document Review

Position	Name	Signature	Date
Project Director	Nick Fryday		28/07/2022

### Distribution of controlled copies

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## Acronyms and Abbreviations

Abbreviation	Definition
ADT	Average daily traffic
CEMP	Construction Environmental Management Plan
CJP	Customer Journey Planning
CMS	Complaints Management System
CoA	Condition of approval
Compliance audit	Verification of how implementation is proceeding with respect to an OACEMP (which incorporates the relevant approval conditions)
CPBGG JV	CPB Contractors and Georgiou Group Joint Venture
CRM	Community Relations Manager
CSEP	Community and Stakeholder Engagement Plan
CSSI	Critical State Significant Infrastructure
CTMP	Construction Traffic Management Plan
DEOH	Defence Establishment Orchard Hills
DoEE	Commonwealth Department of the Environment and Energy
DPE	NSW Department of Planning and Environment (formerly DPIE)
DPIE	NSW Department of Planning, Infrastructure and Environment
EIS	Environmental Impact Statement
EMS	Environmental management system
Environmental aspect	Defined by AS/NZS ISO 14001:2015 as an element of an organisation's activities, products or services that can interact with the environment
Environmental impact	Defined by AS/NZS ISO 14001:2015 as any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation's environmental aspects
Environmental incident	An unexpected event that has, or has the potential to, cause harm to the environment and requires some action to minimise the impact or restore the environment
Environmental objective	Defined by AS/NZS ISO 14001:2015 as an overall environmental goal, consistent with the environmental policy, that an organisation sets itself to achieve
Environmental Representative (ER)	A suitably qualified and experienced person independent of project design and Construction personnel employed for the duration of Construction. The principal point of advice in relation to all questions and complaints concerning environmental performance
Environmental target	Defined by AS/NZS ISO 14001:2015 as a detailed performance requirement, applicable to the organisation or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives
EPA	NSW Environment Protection Authority
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>

Abbreviation	Definition
EPBC Act	Commonwealth <i>Environmental Protection and Biodiversity Conservation Act 1999</i>
EPL	NSW Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>
ERG	Environmental Review Group
EWMS	Environmental Work Method Statements
Federal-CoA	Condition of the Federal Department of the Agriculture, Water and the Environment Approval Decision
Hold Point	A point beyond which a work process must not proceed without express written authorisation from Roads and Maritime
Non-compliance	Failure to comply with the requirements of the Project approval or any applicable licence, permit or legal requirements
Non-conformance	Failure to conform to the requirements of Project system documentation including this OACEMP or supporting documentation
NSW-CoA	Condition of the NSW DP&E Infrastructure Approval
NSW Infrastructure Approval	Approval (SSI 9364) for carrying out of the M12 Project under Section 5.19 of the <i>Environmental Planning and Assessment Act 1979</i> subject to specific CoA as detailed in Schedule 2 of the approval.
OACEMP	Overarching Construction Environmental Management Plan
OCS	Overarching Communication Strategy
OEH	NSW Office of Environment and Heritage
PMP	Pedestrian Movement Plan
Principal, the	Transport for NSW
Project, the	M12 Motorway West
REMM	Revised Environmental Management Measure as provided in the Final EIS / SPIR
Roads and Maritime, RMS	NSW Roads and Maritime Services (former)
ROL	Road Occupancy Licence
RTA	Roads and Traffic Authority (former)
SEARs	Secretary's Environmental Assessment Requirements
Secretary	Secretary of the NSW Department of Planning and Environment, or delegate
SZA	Speed Zone Authorisation
TCP	Traffic Control Plan
TMC	Transport Management Centre
TMP	Traffic Management Plan
Site TMP	Traffic Management Plan developed for CJP/TMC prior to construction
TNR	The Northern Road

Abbreviation	Definition
TfNSW	Transport for NSW (formerly RMS)
VMP	Vehicle Movement Plan
VMS	Variable Message Sign
VSLs	Variable Speed Limit Signs
WHS	Work Health and Safety

# 1 Introduction

## 1.1 Context

This Construction Transport and Traffic Management Sub-plan (CTTMP or Plan) forms part of the Construction Environmental Management Plan (CEMP) for the M12 Motorway West (the Project).

An Overarching Construction Environmental Management Plan (OCEMP) has been prepared by TfNSW to address the requirements of the NSW Conditions of Approval (CoA), the Revised Environmental Management Measures (REMMs) listed in the M12 Motorway Environmental Impact Statement (EIS), Amendment Report (AR), Amendment Report Submissions Report (ARSR), all applicable legislation and Transport for New South Wales (TfNSW) Quality Assurance (QA) specifications. The OCEMP was approved by DPIE on 21/12/2021.

This CTTMP has been prepared by CPBGG JV as a sub plan of the CEMP and it addresses the requirements of the OCEMP, CoAs, REMMs, TfNSW specifications, EPL conditions and relevant legislation.

## 1.2 Background

TfNSW is planning to construct and operate the M12 Motorway to provide direct access between the Western Sydney International Airport (WSIA) at Badgerys Creek and Sydney's motorway network. The M12 Motorway would run between the M7 Motorway at Cecil Hills and The Northern Road at Luddenham for about 16 kilometres and is expected to be opened to traffic prior to opening of WSIA.

The CPB Contractors and Georgiou Group Joint Venture (CPBGG JV) has been awarded the M12 West (construct only contract) – between The Northern Road, Luddenham and about 250 metres east of Badgerys Creek.

An EIS was prepared to describe and assess the Project and recommend management measures to address impacts. The EIS was exhibited by the NSW Department of Planning, Industry and Environment (DPIE) for 34 days from 16 October 2019 to 18 November 2019 to give the community and stakeholders the opportunity to provide comment.

In accordance with Section 5.17 of the EP&A Act, the Secretary requested TfNSW to provide a response to submissions. These were addressed within the Submission Report. Due to design developments since the exhibition of the EIS, an Amendment Report was developed to assess the impacts of these amendments. The Amendment Report was exhibited by DPIE for 14 days from 21 October 2020 to 4 November 2020. Following exhibition of the Amendment Report, an Amendment Report Submissions Report (ARSR) was developed in December 2020 to address the identified issues followed by the ARSR amendment in March 2021. Collectively the EIS, Submission Report, Amendment Report, ARSR and ARSR amendment are herein referred to as Environmental Assessment Documentation.

The Project must be carried out generally in accordance with the Environmental Assessment Documentation in accordance with NSW CoA A1. These documents are collectively referred to as the Environmental Assessment Documentation. The CSSI must also be carried out in accordance with all procedures, commitments, preventative actions, performance outcomes and mitigation measures set out in the Environmental Assessment Documentation as required by NSW CoA A2.

Approval for the Project under the EP&A Act was granted by the Minister for Planning on 23 April 2021 (SSI 9364). Approval for the Project under the EPBC Act was granted by the Federal Minister for the Environment on 3 June 2021 (EPBC 2018/8286). The Project must be carried out in accordance with the terms of the NSW and Federal Approvals.

The Project EIS assessed the traffic and transport impacts during the construction of the Project. As part of EIS development, a Transport and Traffic Assessment Report was prepared to address the Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW DPIE and the Commonwealth EIS Guidelines issued by the Commonwealth Department of the Water, Agriculture and Environment (DAWE). The Transport and Traffic Assessment Report was included in the EIS as Appendix F.

Further assessment of transport and traffic impacts was undertaken subsequent to exhibition of the EIS and incorporated into the Amendment Report. The additional assessment considered the impacts on traffic and transport due to refinements in the Project design, including changes in the Project footprint



and ancillary facilities. A Transport and Traffic updated technical report was included in the Amendment Report as Appendix B and Section 6 of the ARSR

Revised Environmental Management Measures (REMMs) were provided within the Amendment Report and further updated in the ARSR. Where applicable, the REMMs from the ARSR have been included in this Plan. Further, design development has progressed, providing additional environmental assessment, and where relevant, this detail has been included within this CTTMP.

The detailed project description is outlined in Section 1.3 of the CEMP.

### 1.3 Scope of the Plan

The scope of this CTTMP is to describe how the CPBGG JV propose to manage potential transport and traffic impacts during construction of the M12 West Project. The CTTMP has been written to comply with the requirements of the planning approval (SSI 9364). This CTTMP will be used as the basis for the Traffic Management Plan (TMP) (or stage specific TMP) that will be created and submitted separately to Customer Journey Planning (CJP) / Transport Management Centre (TMC). The TMP provides the framework for the Traffic Management requirements on the M12 West project and includes all of the contractual requirements, TfNSW QA Specification G10 requirements and describes the methodology for managing traffic for all permanent and temporary works under the contract. The TMP will be prepared by a person(s) suitably experienced in the design and implementation of TMPs of equivalent complexity and holding qualifications acceptable to TfNSW, including as a minimum, a "Prepare a Work Zone Traffic Management Plan" qualification.

The TMP will be supplemented by a series of Sub-Plans that detail the arrangements of construction staging as they are developed and finalised.

Operational traffic impacts and operation measures do not fall within the scope of this CTTMP and are therefore not included within the processes contained within the CTTMP.

### 1.4 Environmental Management Systems overview

The overall Environmental Management System (EMS) for the Project is described in Section 1.5 of the CEMP. This CTTMP forms part of the environmental management framework for the Project, as described in Section 1.5 of the CEMP. It has been developed to address specific requirements of the CoA and REMMs identified in the overarching CTTMP.

The review and document control processes for this CTTMP are described in Section 6.4.2 and Section 6.6 of the CEMP.

In addition, CPBGG JV will develop, a specific Traffic Management Plan to directly address the relevant TfNSW QA specification G10 for Traffic Management.

Management measures identified in this CTTMP may also be incorporated into site or activity specific Environmental Work Method Statements (EWMS). EWMS will be prepared to manage and control high risk activities that have the potential to negatively impact on the environment. EWMS incorporate appropriate mitigation measures and controls and identify key procedures to be used concurrently with the EWMS.

EWMS for high-risk activities will be prepared by CPBGG JVs Environmental Site Representatives (ESR) and reviewed by the TfNSW Environment and Sustainability Manager (ESM) (or delegate) and independent Environmental Representative (ER) prior to the commencement of the construction activities to which they apply. Construction personnel undertaking a task governed by a EWMS will undertake the activity in accordance with the mitigation and management measures identified in the EWMS.

Used together, the CEMP, strategies, procedures and EWMS form management guides that clearly identify required environmental management actions for reference by TfNSW and CPBGG JV.

The review and document control processes for this CTTMP are described in Section 3.12 and 3.13 of the CEMP.

#### 1.4.1 CTTMP preparation, endorsement and approval

This CEMP sub plan will be approved by the CPBGG JV Project Director and ESR prior to submission to TfNSW.

The CEMP and Sub-Plans will go through a review and update process as described in section 3.1 of TfNSW Specification G36 to ensure the CEMP and associated documents have been developed in accordance with the OCEMP. TfNSW will provide the CEMP and Sub-Plans (including this CTTMP) to the ER for approval. ER approval of this CTTMP is required before construction can commence.

A hold point shall be submitted in accordance with G36 Section 3.1 - Preparation and submission of CEMP. TfNSW shall consider the documents prior to authorising the release of the Hold Point. TfNSW may request additional information for inclusion in the CEMP before authorising the release of the Hold Point.

#### 1.4.2 Interactions with other management plans

This Plan has the following interrelationships with other management plans and documents:

- The Construction Noise and Vibration Management Sub-plan (CNVMP) in Appendix B4 of the CEMP addresses noise impacts associated with construction traffic on surrounding areas
- The Construction Air Quality Management Sub-plan (CAQMP) in Appendix B6 of the CEMP addresses emission impacts associated with increased vehicles within the road network and dust impacts from construction roads
- The Construction Soil and Water Management Sub-plan (CSWMP) in Appendix B8 of the CEMP addresses soil, erosion and water quality impacts associated with site access points and construction roads
- The Community and Stakeholder Engagement Plan (CSEP) addresses all community and stakeholder engagement requirements associated with the project and supports TfNSW's Overarching Communication Strategy developed and approved for the project by DPIE.
- The Sustainability Strategy considers traffic and transport emissions from vehicles.

### 1.5 Consultation

#### 1.5.1 Consultation for preparation of the CTTMP

The following government agencies and stakeholders were consulted with during the development of the Overarching CTTMP, in accordance with NSW CoA C4(a):

- Penrith City Council (PCC)
- Liverpool City Council (LCC)
- Fairfield City Council (FCC).

This CTTMP has been written in accordance with the TfNSW Overarching CTTMP and no external consultation was required for its developments. Consultation with various stakeholders will be required as part of the development of the Site TMP (or stage specific TMP).

#### 1.5.2 Ongoing consultation during construction

Consultation between TfNSW, CPBGG JV, stakeholders, the community and relevant agencies will be undertaken during the construction of the Project as required. The process for the consultation will be documented in the Overarching Communication Strategy (OCS) and CSEP.

Ongoing consultation related to traffic and transport will include consultation for, but not be limited to:

- Consultation with affected businesses and properties where pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties cannot be maintained. In accordance with NSW CoA E96 and REMM TT07, alternative pedestrian and vehicular access, and parking arrangements will be developed in consultation with affected businesses and implemented before the disruption
- Consultation with TfNSW, relevant councils and bus operators regarding bus stop closures and / or relocations in accordance with REMM TT02
- Consultation with the operators of the M7 Motorway to develop measures to manage the potential impacts of construction within the operating M7 Motorway corridor in accordance with REMM TT04

- Consultation with affected businesses and properties where property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access is required in accordance with REMM SLP04
- Consultation with TfNSW, councils and other relevant stakeholders regarding the development of specific Traffic Management Plans (TMP) and associated elements such as Traffic Staging Plans (TSPs), Traffic Control Plans (TCPs), Vehicle Movement Plans (VMPs) and Pedestrian Movement Plans (PMPs) in accordance with TfNSW QA Specification G10 – Traffic Management
- Notification of any changes in traffic conditions on roads or paths to road users, emergency services, public transport operators, and other relevant stakeholders in accordance with REMM TT01
- Consultation with WSIA and Sydney Metro – Western Sydney Airport for traffic and access interfaces in accordance with REMM TT01.

## 2 Purpose and objectives

### 2.1 Purpose

The purpose of this CTTMP is to describe how impacts on traffic and transport will be managed during construction of the Project.

### 2.2 Objectives

The key objective of the CTTMP is to ensure all CoA, REMMs and licence/permit requirements relevant to transport and traffic are described, scheduled and assigned responsibility as outlined in:

- NSW CoA granted to the Project on 23 April 2021
- Environmental Assessment Documentation
- TfNSW QA Specifications
- All relevant legislation and other requirements described in Section 3.1 of this Plan.

### 2.3 Target

Targets for the management of traffic and transport impacts during the Project are to:

- Achieve full compliance with relevant legislative requirements and the NSW CoA and environmental management measures
- Ensure safe and continuous traffic movement for construction workers and the general public
- Maintain the capacity of existing roads where possible during construction to minimise road user delays
- Maintain continuity of access to local roads and properties
- Maintain or provide alternative safe pedestrian and cyclist access around work sites
- Undertake appropriate consultation with impacted residents and businesses and stakeholders
- Implement traffic control operations to minimise delays to road users taking into consideration traffic volumes including peak times of the day and seasonal traffic
- Avoid road occupancy where possible
- Plan all construction vehicle movements to minimise disruption to traffic flow on roads within the Project area and surrounds
- Minimise impacts on, and complaints from, the community and stakeholders through the implementation of management measures as described in Section 5.16.

## 3 Environmental requirements

### 3.1 Relevant legislation and guidelines

#### 3.1.1 Legislation and regulatory requirements

Legislation relevant to traffic and transport include:

- *Roads Act 1993*
- *Road Transport Act 2013*
- *Transport Administration Act 1988*
- *Local Government Act 2013.*

Identified regulatory requirements are:

- Approved and valid Road Occupancy Licences (ROL)
- Approved relevant Speed Zone Authorisations (SZA)
- Australian Road Rules.

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

#### 3.1.2 Guidelines and standards

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

- Australian Standard 1428.1-2009 Design for access and mobility
- Australian Standard AS 1742 Parts 1 to 14, Manual of Uniform Traffic Devices (as required)
- Australian Standard AS 1743.3-2009 Traffic control devices for works on roads
- Australian Standard AS 3845:1999 Road Safety Barrier Systems
- Austroads Guide to Traffic Management – Parts 1-13 (2020)
- Austroads Guide to Road Design – Parts 1-8 (2020)
- Austroads Guide to Road Safety – Parts 1-9 (2019)
- NSW Bicycle Guidelines
- Roads and Maritime Delineation Manual (2008)
- Transport for New South Wales, NSW Speed Zoning Guidelines (2011)
- Transport for New South Wales Traffic Control at Work Sites Manual (2022)
- Transport Management Centre – Road Occupancy Manual (2015)
- Transport for New South Wales QA Specification G1 – Job Specific Requirements for The M12 Motorway
- Transport for New South Wales QA Specification G10 – Traffic Management
- Transport for New South Wales QA Specification G36 – Environmental Protection (Management System)
- PS311 – Environmental Design and Compliance, specifically:
  - M12 Motorway – Central Package, Building Condition and Public Utilities Assessment Report (GHD, 2021)
  - M12 Motorway – Package West, Building Condition and Public Utilities Assessment Report (WSP, 2021)
  - Consistency Assessment – Traffic and Transport Memo for M12 West Package Detailed Design (WSP, 2021)
  - M12 Motorway – West Package, Consistency Assessment Detailed Design (WSP, 2021).

TfNSW specifications are a key source of environmental protection management processes relevant to this CTTMP. The TfNSW QA specifications (eg. G1, G10) set out environmental protection requirements, including Hold Points that must be complied with by CPBGG JV during construction of the Project. A Hold Point is a point beyond which a work process must not proceed without express written authorisation from TfNSW. CPBGG JV will review the TfNSW specifications to inform the preparation of the stage-specific management plan.

## 3.2 Ministers Conditions of Approval

The primary NSW CoA relevant to the development of this CTTMP are listed in Table 3-1. Secondary CoA relevant to this Plan have been listed in TfNSW CCTMP Appendix B. A cross reference is also included to indicate where the CoA is addressed in this CTTMP or other project management documents.

Table 3-1: Primary NSW CoA

CoA No.	Condition Requirement	Document reference
C2	The CEMP must provide: (h) a list of all the CEMP Sub-plans required in respect of construction, as set out in Condition C4. Where staged construction of the Critical State Significant Infrastructure (CSSI) is proposed, the CEMP must also identify which CEMP Sub-plan applies to each of the proposed stages of construction;	OCEMP (TfNSW) CEMP (CPBGG JV) This CTTMP
	(k) for periodic review and update of the CEMP and all associated plans and programs.	Section 7 CEMP Section 3.12 and 3.13
C4	The following CEMP Sub-plans must be prepared in consultation with the relevant government and other agencies identified for each CEMP Sub-plan. Details of all information requested by an agency during consultation must be provided to the Planning Secretary as part of any submission of the relevant CEMP Sub-plan, including copies of all correspondence from those agencies as required by Condition A5. (a) Traffic and Transport - Relevant Council(s)	Section 1.5.1 TfNSW Overarching CTTMP Appendix A
C5	The CEMP Sub-plans must state how:	Section 2.2 Section 2.3
	(a) the environmental performance outcomes identified in the documents listed in Condition A1 will be achieved;	Section 5
	(b) the mitigation measures identified in the documents listed in Condition A1 will be implemented;	Section 3.2
	(c) the relevant terms of this approval will be complied with; and	Section 6.4 CEMP Section 3.2.1
C9	(d) issues requiring management during construction (including cumulative impacts), as identified through ongoing environmental risk analysis, will be managed through SMART (Specific, Measurable, Achievable, Realistic and Timely) principles.	Section 1.4.1
C10	Any of the CEMP Sub-plans may be submitted to the Planning Secretary for approval along with, or subsequent to, the submission of the CEMP but in any event, no later than one (1) month before the commencement of construction.	Section 1.4.1
C10	Construction must not commence until the CEMP and all CEMP Sub-plans have been approved by the Planning Secretary, unless otherwise agreed by the Planning Secretary. The CEMP and CEMP Sub-plans, as approved by the Planning Secretary, including any minor amendments approved by the ER, must be implemented for the duration of construction. Where construction of the CSSI is staged, construction of a stage must not commence until the CEMP and sub-plans for that stage have been endorsed by the ER and approved by the Planning Secretary.	Section 1.4.1

### 3.3 Revised Environmental Management Measures

The primary REMMs relevant to the development of this CTTMP are listed in Table 3-2 below. Secondary REMMs relevant to this CTTMP are listed in TfNSW CTTMP Appendix B. A cross reference is also included to indicate where the REMM is addressed in this CTTMP or other project management documents.

Table 3-2: Primary REMMs

ID	Measure/requirement	Timing	Document Reference
TT01	A Construction Transport and Traffic Management Plan (CTTMP) will be prepared as part of the CEMP in consultation with relevant local Councils, and in accordance with relevant guidelines. The CTTMP will outline:	Prior to construction	This CTTMP Section 1.5.1
	Staging and planning of works to minimise the need to occupy roads where practicable, including identification of haulage routes		Section 5.1.3 Section 5.2
	Safe alternative routes for pedestrians and cyclists in accordance with relevant safety and accessibility standards		Section 5.7
	The requirements for traffic control plans to be prepared for each work area which will include details of site access and specific traffic control measures (including signage) to manage traffic movements		Section 5.1 Section 5.1.2 Section 5.1.3
	Road safety audit requirements		Section 6.7
	Parking arrangements for construction staff		Section 5.10
	Identification of access arrangements at construction sites detailing vehicle access movements	Prior to construction	Section 5.1 Section 5.1.2 Section 5.1.3 Section 5.2
	Measures to minimise changes to the existing road network, property access, bus stops and pedestrian/cyclist facilities where feasible		Section 5
	Measures to communicate and notify of any changes in traffic conditions on roads or paths to road users, emergency services, public transport operators, and other relevant stakeholders		Section 1.5.2 Section 5.16 Section 6.2
	Measures to manage construction traffic interfaces and access arrangements with Western Sydney International Airport and Sydney Metro – Western Sydney Airport		Section 5.15 Section 1.5.2 Section 5.16





ID	Measure/requirement	Timing	Document Reference
	Requirements for appropriate warning and signage for traffic and other road users such as cyclists and pedestrians in the vicinity of work areas and work site access, and road diversions.		Section 5.6

## 4 Construction traffic impacts

Potential traffic impacts from the construction of the Project were assessed in the Environmental Assessment Documentation Transport and Traffic Assessment Reports, notably EIS Appendix F and Amendment Report Appendix B respectively. The assessment identified that during construction, the Project may affect the surrounding road network due to:

- Construction vehicles using the surface road network, especially heavy vehicles transporting spoil
- Surface roadworks requiring temporary traffic, cyclist and/or pedestrian diversions, road occupation and temporary road closures
- Temporary changes to speed limits.

### 4.1 Traffic generating activities

Construction is proposed to occur between 2022 and 2026. An increase in traffic volumes is expected during construction of the Project with peak construction activity anticipated to occur in 2024 during the bulk earthworks and pavement activities. These activities will generate the most construction traffic for deliveries of spoil to build reinforced earth structures and pavement materials.

Table 4-1 represents the anticipated light and heavy vehicle traffic generation from each of the work sites and construction ancillary facilities for the Project, based on those presented in the Amendment Report and the Consistency Assessment – Traffic and Transport Memo for M12 West Package Detailed Design (WSP, 2021). It is noted that the values presented in Table 4-1 may fluctuate depending on the works being undertaken and will not be consistent throughout the entire construction period.

The main traffic generating construction activities comprise of:

- Construction haulage by heavy vehicles
- Light vehicle movements (vans, utility pick-ups) associated with construction staff and contractors
- Delivery of materials such as civil, concrete and paving materials
- Movements of construction equipment.

Table 4-1: Construction traffic generation (inbound and outbound)

Ancillary Facility	Work Sites <sup>1</sup>	Daily heavy vehicle generation	Morning peak light vehicle generation	Morning peak <sup>2</sup> heavy vehicle generation	Evening peak <sup>3</sup> light vehicle generation	Evening peak heavy vehicle generation
<b>AF1/10</b>	ML-01 The Northern Road to Luddenham Road	80*	100*	20*	100*	20*
<b>AF2/3</b>	ML-03, ML-05, ML-06, ML-08 Cosgroves Creek bridge to Badgerys Creek ML-04 Airport interchange north of the M12 Motorway main line ML-07 Western Sydney International Airport access road LR-02 Elizabeth Drive, west of the Western Sydney International Airport access road LR-03 Elizabeth Drive, east of the Western Sydney International Airport ML-09 Badgerys Creek to South Creek bridge	220*	100*	16*	100*	16*
<b>AF11</b>	ML-02 Luddenham Road to Cosgroves Creek bridge LR-01 Luddenham Road's private access driveway	220*	100*	16*	100*	16*
<b>Total:</b>		<b>520</b>	<b>300</b>	<b>52</b>	<b>300</b>	<b>52</b>

<sup>1</sup> As detailed in the AR and depicted in AR Figure 6-4 Amended Haulage Arrangements

<sup>2</sup> Morning peak is 0730 to 0830 hours

<sup>3</sup> Evening peak is 1730 to 1830 hours

## 4.2 Intersection performance

Traffic intersection performance analysis was undertaken to determine the impacts of construction traffic at key intersections. TfNSW uses Level of Service (LoS) as a measure of performance for all intersection types operating under prevailing traffic conditions. The LoS ranges from LoS A to LoS F which is directly related to the average intersection delays experienced by traffic travelling through the intersection.

In the 2024 'with construction' scenario, the following intersections have been modelled to perform poorly at Level of Service F:

- Elizabeth Drive / Devonshire Road – will remain at Level of Service F during the morning (368 seconds) and evening (771 seconds) peaks.
- Elizabeth Drive / Badgerys Creek Road – will change from Level of Service D (55 seconds) to Level of Service F (124 seconds) during the morning peak.

It noted that the modelling results do not reflect the recent roundabout upgrade that has been installed by WSA Co at this intersection as part of WSIA construction. The implementation of the roundabout would result in an improved performance for this intersection and it is expected it would perform at a LoS higher than F.

Increases in delay at these intersections are a result of the addition of construction-related heavy vehicle traffic. Additional delays would be experienced for vehicles waiting for a gap in traffic when turning right or left onto Elizabeth Drive. Due to their length, construction-related heavy vehicles require longer gaps in traffic to safely turn from minor roads at priority-controlled intersections.

The results of the intersection performance as identified in the Amendment Report are presented in Table 4-2.

Table 4-2: Intersection performance: 2024 Project with 'construction' scenario

Intersection	Morning peak		Evening peak	
	Average delay (secs)	Level of Service	Average delay (secs)	Level of Service
Elizabeth Drive / M7 Motorway southbound ramps	34	C	42	C
Elizabeth Drive / M7 Motorway northbound ramps / Wallgrove Road	41	C	51	D
Elizabeth Drive / Cecil Road	23	B	14	A
Elizabeth Drive / Duff Road	24	B	20	B
Elizabeth Drive / Mamre Road	23	B	18	B
Elizabeth Drive / Range Road	35	C	45	D
Elizabeth Drive / Devonshire Road	368	F	771	F
Elizabeth Drive / Clifton Avenue	20	B	21	B

Intersection	Morning peak		Evening peak	
	Average delay (secs)	Level of Service	Average delay (secs)	Level of Service
Elizabeth Drive / Western Road	24	B	36	C
Elizabeth Drive / Martin Road	10	A	13	A
Elizabeth Drive / Lawson Road	11	A	10	A
Elizabeth Drive / Badgerys Creek Road	124	F	19	B
Elizabeth Drive / Adams Road	13	A	24	B
Elizabeth Drive / Luddenham Road	17	B	17	B
Elizabeth Drive / The Northern Road	41	C	41	C

### 4.3 Parking

Parking for construction personnel will be provided at ancillary facilities. It is not expected that surplus parking demand from construction activities would reduce the availability of surrounding public parking as there is currently limited or no on-street parking in the vicinity of the Project.

### 4.4 Public transport

Bus routes 801 and 813 operate along Elizabeth Drive between the M7 Motorway and Badgerys Creek Road and Route 789 operates on The Northern Road. During construction of the project, the following impacts on buses and bus customers are likely:

- Reductions in speed when travelling through construction activity areas, resulting in longer travel times
- Temporary relocation of bus stops away from construction zones and alternative access requiring some passengers to walk further, while other passengers may have a shorter distance to walk to their desired bus stop.

### 4.5 Pedestrian and cyclist access

The increase in construction vehicles will have a negligible impact on sensitive road users given the existing low volumes of pedestrians and cyclists using the proposed construction access routes. Notwithstanding, construction of the Project will affect pedestrian and cyclists, who will be required to travel with reduced shoulder widths or use temporary alternative paths.

## 5 Traffic Management

### 5.1 Construction traffic management

CPBGG JV will develop a specific Traffic Management Plan (TMP) conforming to AS 1742.3 and the TfNSW Traffic Control at Worksites Manual (TCWS) for the specific works that will be submitted to CJP/TMC. These plans will contain additional written details describing the staging and nature of the works.

The TMP will be prepared by a person(s) suitably experienced in the design and implementation of TMPs of equivalent complexity and holding qualifications acceptable to TfNSW, including as a minimum, a “Prepare a Work Zone Traffic Management Plan” qualification.

The TMP must be signed off by the Construction Traffic Manager before forwarding to TfNSW for consideration and approval. Key stakeholders including councils, WSIA, Sydney Metro – Western Sydney Airport and bus operators will also be provided a copy of the approved TMP for their information and overview.

The TMP will include as a minimum and where appropriate, the following elements in accordance with TfNSW QA Specification G10:

- Details of any traffic staging arrangements associated with each proposed construction stage, including TSP, and the time periods during which each stage will be in operation
- TCP, including provision for cyclists and pedestrians, and any specific traffic control arrangements associated with the conditions of approval of the ROL
- VMP showing the mandated travel paths for vehicles to enter, leave or cross the through traffic stream
- PMP showing the allocated travel paths for workers within the Site, and for pedestrians and cyclists around or through the site, including safe and unhindered access to bus stops
- Plans showing access to local properties and side roads affected by the construction, relocated bus stops and any temporary carparking arrangements
- Plans showing temporary staff car parking at construction sites and ancillary facilities
- Design drawings for any temporary roadways and detours, including alignment and surface levels, pavement widths, pavement cross-sections, lane configurations, pavement markings, signage and drainage, and approved traffic signal plans if applicable
- Traffic Incident Management Plan, for dealing with unplanned traffic incidents.

#### 5.1.1 Traffic staging plans

CPBGG JV will further develop Traffic Staging Plans (TSPs) as part of the stage-specific TMP. The purpose of the TSP is to show how traffic will be managed through the Project to:

- Ensure the safety of construction site personnel, road users and pedestrians
- Manage the works to minimise the need to occupy roads wherever possible.

The TSPs will include, but not be limited to, road design drawings showing traffic lane configurations to be provided for traffic passing through the construction sites, including details of road alignment and geometry, intersection layouts, provision for buses and cyclists, work areas and pedestrian areas, drainage, signs and pavement markings in accordance with TfNSW QA Specification G10.

#### 5.1.2 Vehicle movements

Detailed TCPs will be prepared in accordance with TfNSW QA Specification G10 to identify measures that will be installed to warn traffic and guide it around or past the construction sites. TCPs may be in the form of written documents and/or diagrams. TCPs will incorporate Vehicle Movement Plans (VMPs) and Pedestrian Movement Plans (PMPs) as relevant. TCPs will also identify any property or business access issues related to construction.

#### 5.1.3 Ancillary facility traffic management

Ancillary facilities are required to support the construction of the Project. The locations and access to these ancillary facilities will be confirmed prior to mobilisation and are indicatively identified in Table 5-1 and shown in Figure 5-1.

Traffic management for ancillary facilities will be planned to minimise effects on existing traffic flows. Dedicated light and heavy vehicle turning areas and temporary traffic management measures, if required, will be developed and detailed in the Site TMP.

Table 5-1: Indicative construction access to ancillary facilities

Ancillary facility	Access
AF1	Access from The Northern Road via an existing property access
AF2	Access from Elizabeth Drive opposite the existing Elizabeth Drive/Taylors Road intersection, opposite the northern boundary of the Western Sydney Airport.
AF3	Access via AF2 and then through the construction footprint (i.e. from Elizabeth Drive opposite the existing Elizabeth Drive/Taylors Road)
AF10	Access from The Northern Road, via the existing ancillary facility access point
AF11	Access from Luddenham Road via an existing property access

## 5.2 Haulage Routes

Heavy vehicle routes and ancillary facility access points to be used for construction of the Project are shown on Figure 5-1.

CPBGG JV will undertake detailed planning of haulage routes and vehicle turning movements during preparation of the site specific TMP. The TMP will include an indicative assessment and impact of the number and timing of additional construction vehicle traffic movements on the haulage routes identified in Figure 5-1 that will be generated by the construction of each stage of the Project. The TMP will include detailed maps illustrating haulage routes between material source sites and ancillary sites, details of the haulage route roads, direction of travel, access points to ancillary facilities and construction sites, locations of any sensitive receivers and any limitations of the haulage route.

In accordance with NSW CoA A49, all heavy vehicles used for construction haulage will be clearly marked on the sides and rear with the CSSI name, and the name of the stage, to enable immediate identification by a person viewing the heavy vehicle. Details of the CSSI identification markings was submitted to the Planning Secretary for approval on 8 June 2021 and approved on 23 June 2021 i.e. prior to the heavy vehicles being used for construction spoil haulage. Only one Project form of signage will be placed on a heavy vehicle at any one time; this will be checked by CPBGGJV as trucks enter and leave site. The identification markings will be as follows:

- Orange for M12 West, green for M12 Central, blue for M12 East
- Produced with retroreflective background to ensure visibility in low light conditions and at night
- Sized:
  - Small: 296.93mm x 81.28mm
  - Large: 594.11mm x 156.46mm

Signage is publicly available on the DPE website:

<https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSI-9364-PA-4%2120210608T054816.141%20GMT>

Figure 5-1 illustrates the haulage vehicle signage for the west.



Figure 5-1: Haulage vehicle signage for M12 West.

Haulage routes will be planned to minimise movements on the road network during the AM and PM peak periods where practicable. Where haulage routes pass schools, childcare facilities and/or aged care facilities, heavy vehicle movements during operational peak hours of these facilities would also be minimised where practicable. Real time monitoring of off-site haulage vehicles will be undertaken in accordance with clause 43 of G1 specification. Records will be made available to TfNSW, DPE and the EPA upon request. The transportation of hazardous goods is to be in accordance with section 6.10 of the CSWMP and TT32.

### 5.2.1 Local Roads

In accordance with NSW CoA E93, heavy vehicles used for spoil haulage and concrete deliveries associated with the Project are not permitted to use local roads within 1km of work areas or construction ancillary facilities, unless approved by the Planning Secretary in accordance with CoA E94 or are identified in the Environmental Assessment Documentation. Figure 5-2 and Figure 5-3: depicts the identified haulage routes in the Environmental Assessment Documentation and the 1km boundary around the Project. It is not anticipated that the use of any additional local roads within the 1km boundary will be required. If this changes, CCPBGG JV, in conjunction with TfNSW, must seek approval from the Planning Secretary before the use of the additional local roads.

In accordance with NSW CoA E94, requests to the Planning Secretary for the approval of spoil haulage and concrete delivery vehicles to use these additional local roads will include a Traffic and Pedestrian Impact Assessment and be prepared in consultation with the relevant local council(s). The assessment will be undertaken by an appropriately qualified and experienced person and:

- a) Include a swept path analysis if required by the Department
- b) Demonstrate that the use of local roads will not compromise the safety of the public and have no more than minimal amenity impacts
- c) Provide details as to the date of completion of the road dilapidation surveys for the subject local roads
- d) Describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation.

The outcomes and recommendations of the Traffic and Pedestrian Impact Assessment (particularly E94(c)) will be incorporated into the Site Establishment Management Plan or CTTMP as relevant.

All local roads approved for use by the Planning Secretary must be identified in this CTTMP and the Site TMP.



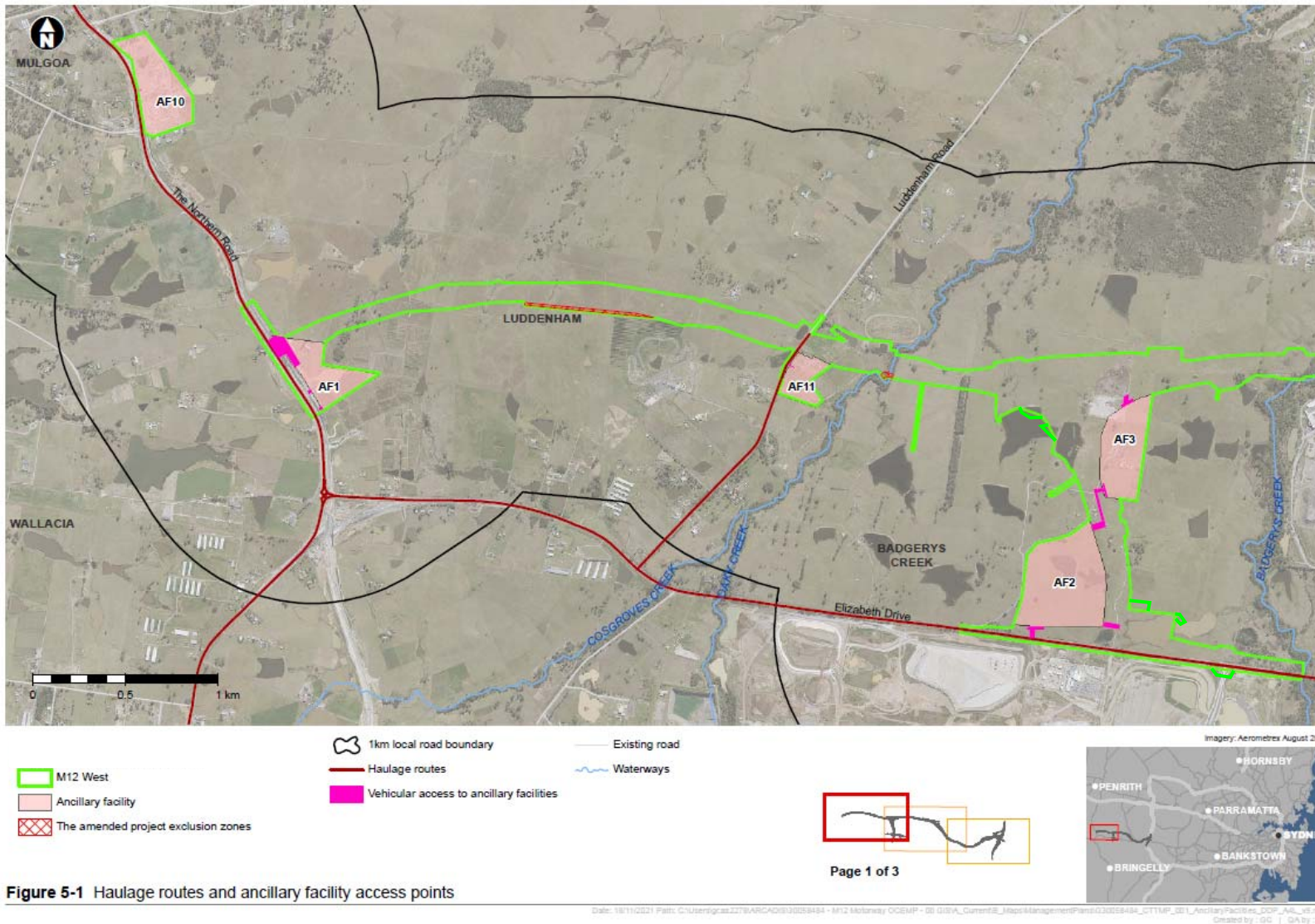


Figure 5-2 Haulage routes and ancillary facility access

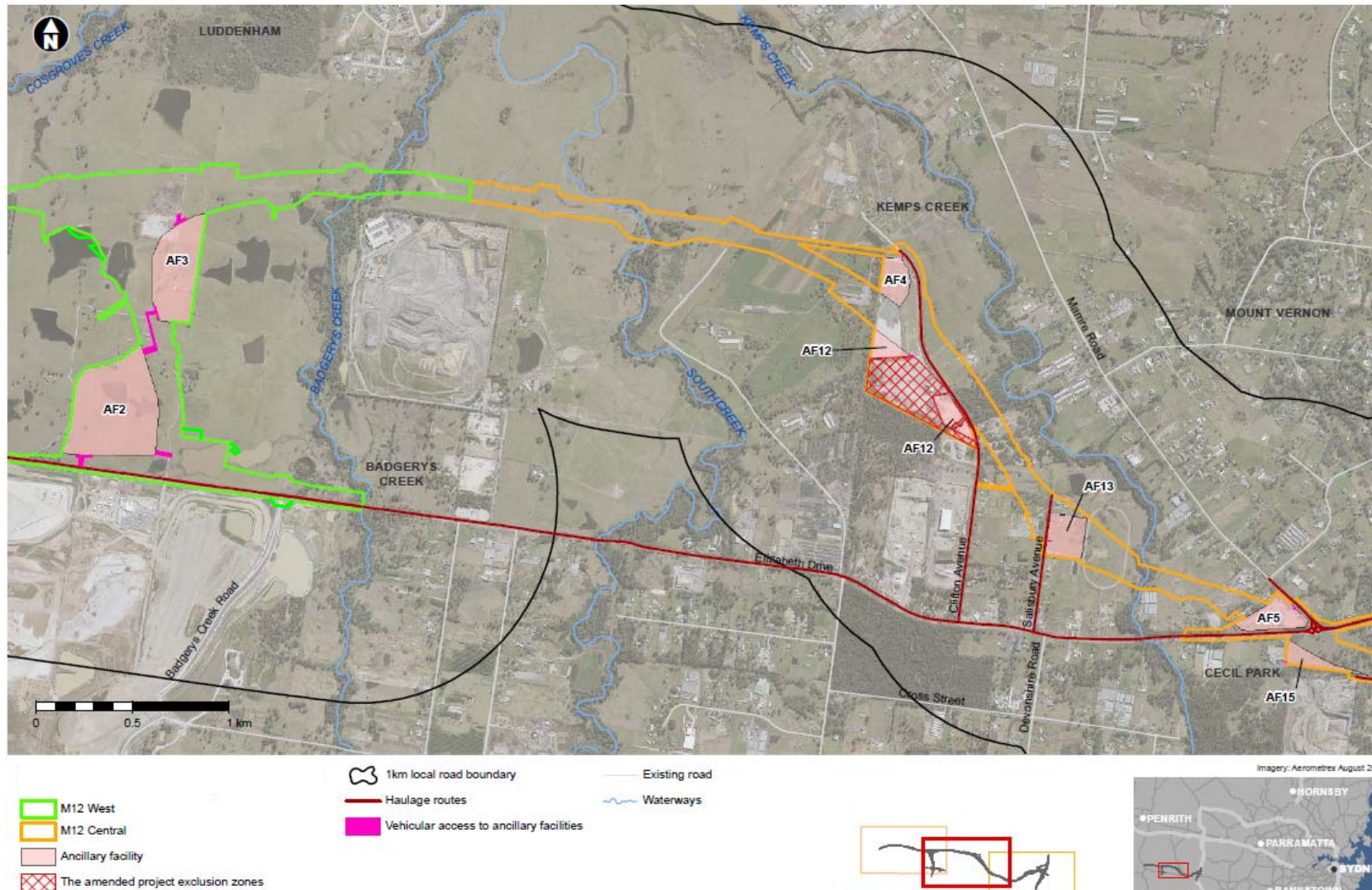


Figure 5-1 Haulage routes and ancillary facility access points

Date: 18/11/2021 Path: C:\Users\gpc\2276\ARCAD\930254484 - M12 Motorway OCEMP - 00 GIS\A\_Current\8\_Maps\ManagementPlans\G30254484\_CTTMP\_001\_AncillaryFacilities\_DOP\_Air\_08.mxd Created by: GC | GA by: RB

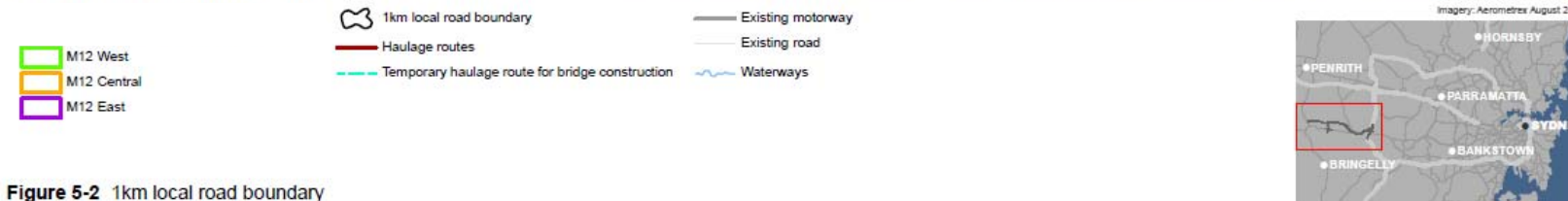
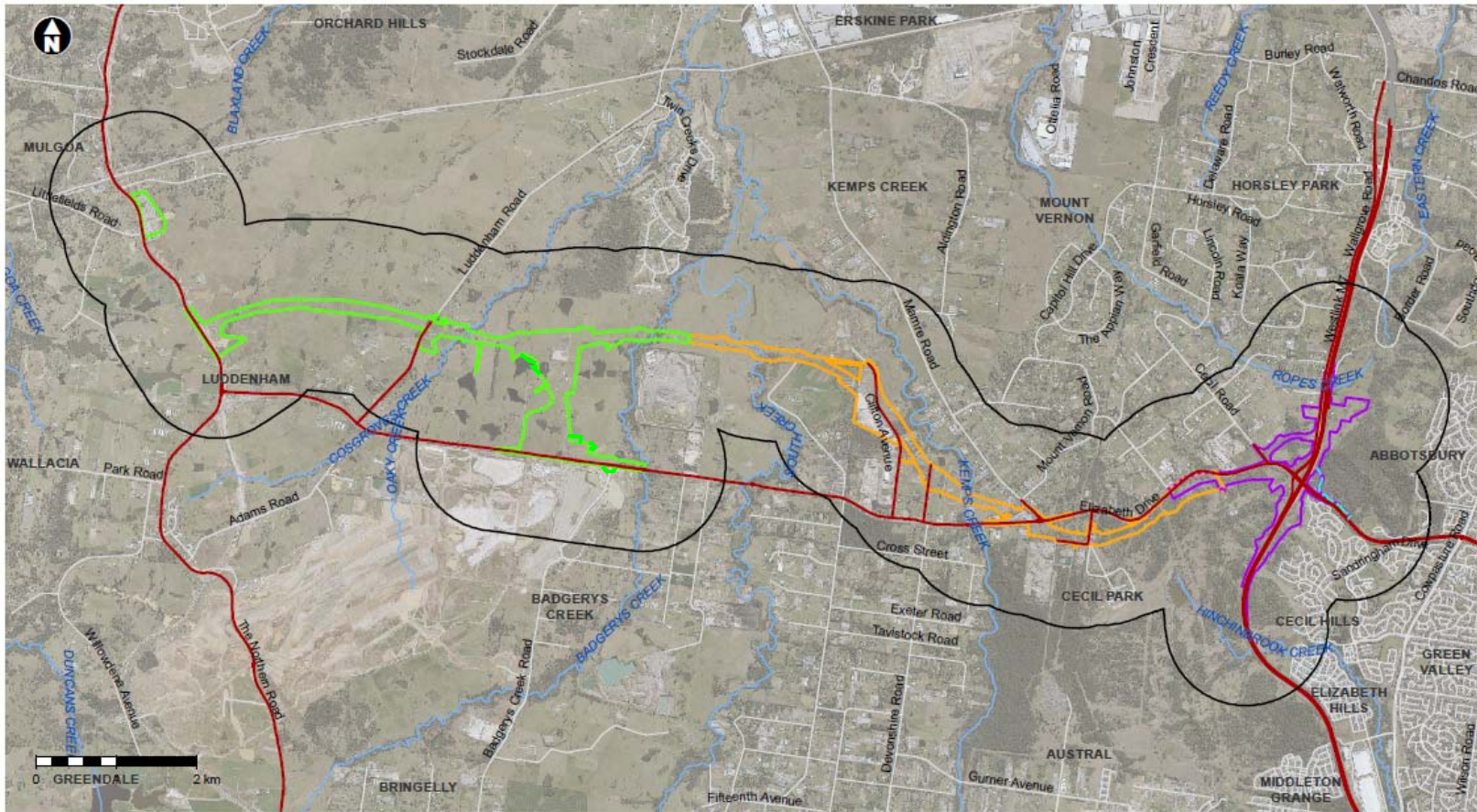


Figure 5-2 1km local road boundary

Date: 18/11/2021 Path: C:\Users\gc\279\ARCADIS\30058454 - M12 Motorway\OCMP - 00 GIS\A\_Currrent\6\_Maps\ManagementPlans\30058454\_CTTPM\_002\_LocalRoadBoundary\_ML\_v1.mxd Created by: GC | QA by: RB

Figure 5-3: Local Road 1km Boundary

### 5.3 Traffic control signs and devices

Traffic control devices include signs, traffic signals, pavement markings, traffic islands, and other devices used to regulate, warn and/or guide road users. Traffic control devices for the Project include:

- Safety barriers
- Pavement markings and signs
- Portable Variable Message Sign (VMS)
- Temporary and permanent traffic signals
- Temporary roundabouts
- Traffic counts
- Radar activated speed signs
- Temporary speed zones
- Lighting towers.

Traffic control signs and devices required during construction will be identified in TCPs and implemented in accordance with the Traffic Control at Worksites manual (TfNSW, 2022). CPBGG JV will obtain all necessary approvals for traffic control devices used on the Project.

### 5.4 Road occupancy

Construction of the Project will require closing of shoulders and lanes on either the existing, temporary, or new roads. An ROL will be obtained by CPBGG JV if an existing road is to be used in such a way that it affects traffic flow within the vicinity of the Project works.

Road occupancies include:

- Shoulder occupancies and/or closures
- Lane occupancies and/or closures
- Road closures and detours
- Any occupation of the construction site by site personnel (including sub-contractors), equipment or plant that requires a traffic control plan
- Any other event, including utility works, that causes delays to traffic flows.

Applications for an ROL will be prepared by CPBGG JV in accordance with the Road Occupancy Manual (TMC, 2015) and will comply with the road safety and traffic management principles, objectives and targets outlined in this CTTMP. Applications will be submitted in accordance with TfNSW QA Specification G10 Traffic Management before the planned commencement of the work activity that requires road occupancy. The submission will include a description of the work to be conducted, design drawings if relevant, a program of the works, a TCP, VMP, details of SZA submission (if applicable), and contact details of the CPBGG JV Traffic Manager or delegate.

### 5.5 Speed management

Temporary speed zones will be implemented to assist in controlling the speed of traffic through roadwork sites. A reduced roadwork speed zone will only be implemented where it is warranted. The CPBGG JV Traffic Managers will assess whether roadwork speed zones are necessary to assist in controlling vehicle speeds.

When planning and carrying out traffic management, comply with the TfNSW Traffic Control at Work Sites Manual (TCWS) (TfNSW, 2020). Roadwork speed limits and zoning in road occupancies must comply with TCWS and the NSW Speed Zoning Guidelines (RTA, 2011).

The key principles for the effective implementation of roadwork speed limits are:

- They are self-enforcing or will be enforced
- They are not used alone but with other traffic control signs and devices
- They are not used in place of more effective means of traffic controls
- They are only to be used while roadworks are in progress or there are temporary safe road conditions.

CPBGG JV will apply for an SZA prior to implementation of temporary speed zones, as part of the ROL application process described in Section 5.4.

CPBGG JV Traffic Managers will retain copies of all approved SZAs on site and provide a copy to NSW Police and Liverpool City Council and Penrith City Council, as relevant. CPBGG JV will maintain a record of times when temporary speed zoning signs are in place. The community will be informed of any SZA to be implemented via advertising and/or signage.

## 5.6 Signposting and delineation

Signposting and delineation are important aspects 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.

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

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

The details of controls for maintaining access will be provided as part of the site TCPs, which will include a Signage Strategy that identifies the types and locations for signage that will be implemented. The TCPs which include signage strategy will be developed in consultation with affected local businesses and properties along Luddenham Road, The Northern Road and Elizabeth Drive, Penrith City Council and Liverpool City Council and other relevant authorities (such as Transport Management Centre (TMC)).

CPBGG JV will develop the Signage Strategy in the TCPs in accordance with Guide: Signposting (RTA, 2007) to outline the measures to be implemented to minimise disruption and access to businesses and properties in the Project area. In accordance with REMM TT10, this Signage Strategy will provide for appropriate signage for businesses where existing signage is obscured/no longer visible or where customers are required to use alternative access to reach the businesses during construction.

The Signage Strategy will include:

- A review of existing signage along the Project corridor, which may include:
  - Private and commercial signage
  - Street signage
  - Visitor information signage
  - Parking, pedestrian and public transport facilities signage
- The principles to be adopted for the Signage Strategy, such as:
  - Signage design – ensuring signs are highly visible, clear and easy to understand, of appropriate size and style
  - Signage placement – positioned in accordance with relevant Australian Standards, clearly legible to motorists, pedestrians and cyclists and without causing an obstruction, positioned at eye level for motorists, minimising clutter in the roadway
- The implementation program for the strategy, which will detail the methods and timing for following steps:
  - Audit of existing signage
  - Consultation with stakeholders including the coordination of temporary or permanent signage with other developments
  - Identification of existing signage that will be obscured/no longer visible or where customers are required to use alternative access to reach the businesses
  - Identification of locations where signage will be required

- Inclusion of signage in TSP/TCPs as required for submission to TfNSW as part of the ROL approval process
  - Liaise with local businesses, properties, the relevant local Council and TfNSW to design and arrange signage
  - Removal of existing signage, if required
  - Installation of signage, which will occur progressively in consultation with affected stakeholders and prior to any disruption from construction
  - Upon completion of the Works, remove the temporary roadways and/or detour arrangements and restore the area to a condition equivalent to that which existed prior to the commencement of the work.
- A monitoring and maintenance program for signage to ensure signs are effective and remain fit for purpose, including:
- Development and maintenance of a database of installed signage, including sign location, type and installation date
  - Audit program of signage installed to assess its effectiveness, including consultation with affected business and property owners
  - Inspections as part of the weekly environmental inspections to check for damage or removal of signage installed
  - A process for cleaning or replacement of signage as soon as feasibly practicable where vandalism, damage or removal occurs.

During construction, CPBGG JV will maintain ongoing timely communication with affected businesses and properties on Project timing, changes to traffic conditions and access arrangements. This will include notice on timing and duration of activities and potential localised impacts. Information will be provided to, and sought from, affected business and property owners via various methods, including letterbox drops, face-to-face meetings, community information events and meetings, and the Project website. Further details are provided in the OCS and CSEP.

## 5.7 Pedestrians and cyclists

In accordance with NSW CoA E99 safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction, an alternate route which complies with the relevant standards must be provided and signposted.

In accordance with NSW CoA E63, active transport facilities must be designed, constructed and / or rectified in accordance with the *Guide to Road Design Part 6A: Paths for Walking and Cycling* and relevant *AS 1428.1-2009 Design for access and mobility*. Active transport links must also incorporate relevant Crime Prevention Through Environmental Design principles.

CPBGG JV will prepare PMPs as part of the site TMPs in accordance with TfNSW QA Specification G10. The PMPs will consist of diagrams showing the allocated travel paths for construction site personnel and pedestrians around or through construction sites.

When preparing PMPs, CPBGGJV will consider Crime Prevention Through Environmental Design (CPTED) principles of relevant guidelines. These principles include natural surveillance, natural access control and good definition of space and ownership.

## 5.8 Public transport

Public transport in the core study area is currently served by bus services only with very limited coverage and frequency. Transit Systems operates the following routes via Elizabeth Drive:

- Route 813 (Liverpool town centre to Badgerys Creek Road) runs to the east of Mamre Road on Elizabeth Drive. This is a local bus service that operates on weekdays only with 4 services a day in each direction between 9.30 am and 6.20 pm
- Route 801 (Bonnyrigg to Fairfield) travels up to Badgerys Creek Road. There are no bus services or bus facilities west of Badgerys's Creek Road on Elizabeth Drive. This is local bus route that operates on weekdays only with two services in the peak direction in the morning and evening peak.

Busways operates the following routes via The Northern Road:

- Route 789 operates along The Northern Road between Penrith and Luddenham. This is a peak hour only service and operates twice a day on weekdays with no services provided on weekends.

Changes to bus stops will be implemented in consultation with TfNSW, relevant councils, and relevant bus operators. Alternate temporary bus stops will be provided with appropriate signage to direct commuters. Safe access will be provided in accordance with relevant safety and accessibility standards.

## 5.9 Property access

In accordance with CoA E96 and REMM TT07 all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, residences, businesses, and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised.

Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected residents, businesses and affected property owners and implemented before the disruption. Any changes to access will provide the same equivalent pre-existing level of access unless agreed to by the landowner. Property access that is physically affected by the project must be reinstated to at least an equivalent standard, in consultation with the landowner. Adequate signage and directions to businesses must be provided before, and for the duration of, any disruption. Notification must be provided at least 5 working days prior to works affecting residents and businesses.

In accordance with NSW CoA E79 and REMM SLP07, construction activities will be planned to minimise intrusion and disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (e.g. stock access, access to farm dams, etc) unless otherwise agreed by the landowner.

Any property adjustments, including replacement of agricultural infrastructure (such as fencing) and relocation of property access that impact the property will be carried out in consultation with property owners/ business managers.

## 5.10 Parking

CPBGG JVs VMPs will include provisions for appropriate off-road areas for construction traffic parking, including for workforce parking and site visitors. VMPs will describe access locations and safe entry and exit to and from all such parking areas.

Parking arrangements for businesses and properties are not anticipated to be impacted by the Project, including at Luddenham Town Centre. However, where any specific requirements are identified during consultation with affected businesses and properties, CPBGG JV will implement appropriate arrangements, including providing temporary signage, for parking.

Private parking lots will not be utilised by the Project unless otherwise agreed to by the stakeholder or landowner. Parking will also be provided at Ancillary Facilities.

## 5.11 Road maintenance

CPBGG JV will monitor and maintain existing or temporary roads used by construction traffic during the Project in the Project area. Maintenance activities will include repairing potholes, heavy patching, re-sealing/re-sheeting and removing debris and re-applying line-marking.

CPBGG JV will co-operate with TfNSW, relevant councils and its personnel or contractors in carrying out maintenance of existing roads outside the Project area.

In accordance with CoA E95 and clause 28 of G1 specification (hold point), CPBGG JV will prepare a Road Dilapidation Report for any local road that is used by a heavy vehicle. A copy of the Road Dilapidation Report will be provided to the relevant road authority within three (3) weeks of completion of the survey and at least two (2) weeks before the local road is used by heavy vehicles. In accordance with REMM TT06, the report will document the existing conditions of local roads and outline measures to repair damage to roads from heavy vehicle movements associated with the Project.

If damage to roads occurs as a result of construction, CPBGG JV will rectify the damage to restore the road to at least the condition it was in pre-construction in consultation with the relevant road authority.

Rectification works will be undertaken within three (3) months of the subject road no longer being used for the construction of the CSSI unless an alternative timeframe is agreed to by the relevant road authority.

## 5.12 Special events

A special event in traffic management terms is defined 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. Special events may include:

- Local festivals and celebrations
- Annual local events
- Sporting events
- Parades and marches
- Daylight savings changes
- Seasonal variations in traffic volumes
- NSW holiday periods.

Where special events are expected to generate additional vehicle or pedestrian traffic in the area affected by construction of the Project, CPBGG JV will co-operate with the event organiser, TMC, TfNSW, local Councils and other authorities to facilitate traffic and pedestrian flows on the existing road network or adjacent to the construction sites. CPBGG JV will also liaise with Liverpool City Council, Penrith City Council and Fairfield City Council and Western Sydney Parklands Trust in relation to upcoming traffic generating special events when planning any traffic arrangements to avoid any conflict with construction activities.

## 5.13 Emergency services

Consultation with emergency services providers will continue throughout construction of the Project to minimise impacts on emergency services operations. Emergency services will be kept fully informed of all changed traffic conditions throughout construction. CPBGG JVs Traffic Managers will arrange for representatives of the Emergency Services to attend traffic control and stakeholder meetings to ensure they remain informed of current or upcoming changes to traffic conditions.

CPBGG JV Traffic Managers and/or delegate will notify the emergency services providers when access to properties or traffic routes is expected to be impeded for any period of time. Signage will be implemented to ensure that all construction and adjusted property accesses are clearly signposted.

## 5.14 Incident management and response

TfNSW is responsible for the management of unplanned traffic incidents on NSW roads in coordination with NSW Police. If requested, CPBGG JV will provide support to TfNSW or Emergency Services agencies when emergencies or unplanned incidents occur within or adjacent to a construction site. CPBGG JV will nominate a contact person, such as the Traffic Manager, to be available at all times if an emergency or disruptive unplanned incident occurs within the boundary of any construction area subject to a TCP. The nominated contact person will respond within one hour to after-hours callouts from the Transport Management Centre (TMC) or Police.

For non-emergency disruptive incidents, the Traffic Manager or delegate will attend the location of the traffic incident and assess if corrective actions are required to be undertaken or additional resources are to be provided. This assessment will occur in coordination with Emergency Services agencies, if in attendance. A record of communications with the TMC and Police and all traffic incidents attended will be kept by CPBGG JV.

### 5.14.1 Traffic incident management plan

CPBGG JV will prepare a Traffic Incident Management Plan as part of the Site TMP. The Traffic Incident Management Plan will be developed in consultation with the TMC, Sydney Metro, WSIA, Liverpool City Council and Penrith City Council. TfNSW QA Specification G10 specification details the requirements of the Traffic Incident Management Plan.



## 5.15 Management of cumulative traffic impacts

Potential cumulative construction impacts may occur from the aggregated effect of other developments preparing for or starting Construction. Projects that may contribute to cumulative traffic impacts due to location, timeframe and project size include:

- WSIA
- Sydney Metro – Western Sydney Airport
- Operational M7 Motorway
- Adjacent property and land developers
- Other works being undertaken as part of the M12 Motorway project including:
  - M12 Central
  - M12 East
  - M12 Early Works

CPBGG JV will:

- Liaise and coordinate with other contractors undertaking these adjacent concurrent works which may involve road occupancies
- Liaise and facilitate regular meetings with TfNSW, other authorities and relevant parties including meeting at least monthly with TfNSW and Transport Management Centre (TMC)
- Liaise with TfNSW and other regulatory authorities (such as TMC), emergency services, Council(s) when planning and implementing your traffic management proposals
- Develop measures to minimise traffic conflict and congestion that may occur due to the cumulative increase in construction vehicle traffic caused by other developments
- Keep records of these meetings make them available to relevant personnel. Meetings may include but are not limited to Traffic Coordination Groups and Traffic and Transport Liaison Groups.

## 5.16 Management measures

Management actions prescribed by this CTTMP aim to minimise construction traffic impacts and are summarised in Table 5-2.

Table 5-2: Transport and Traffic management and mitigation measures

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
<b>Notification and Consultation</b>					
TT01	Notify any changes in traffic conditions on roads or paths to road users, emergency services, public transport operators, and other relevant stakeholders	Consultation Records OCS CSEP	Prior to construction, and during construction	Construction Traffic Manager / Community Stakeholder Manager	REMM TT01
TT02	Consultation will be carried out with WSIA and Sydney Metro – Western Sydney Airport for traffic and access interfaces.	Consultation Records OCS CSEP	Prior to construction, and during construction	Construction Traffic Manager / Community Stakeholder Manager	REMM TT01
TT03	Consultation will be carried out with TfNSW, councils and other relevant stakeholders regarding the development of specific TMP and associated elements such TSPs, Traffic TCPs, VMPs and PMPs.	Consultation Records OCS CSEP	Prior to construction, and during construction	Construction Traffic Manager	TfNSW QA specification G10
TT04	Consultation will be carried out with the operators of the M7 Motorway to develop measures to manage the potential impacts of construction within the operating M7 Motorway corridor.	Consultation Records OCS CSEP	Detailed design prior to construction, and during construction	Construction Traffic Manager / Community Stakeholder Manager	REMM TT04

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT05	Notify local residents and local businesses about any new or changed construction activities which will affect access to their properties or otherwise disrupt the residents' use of their premises, at least 5 working days before commencing work affecting residents.	Consultation Records OCS CSEP	Prior to construction, and during construction	Construction Traffic Manager / Community Stakeholder Manager	TfNSW QA specification G36
TT05A	Coordination and liaison will be undertaken with contractors undertaking adjacent concurrent works which may involve road occupancies	Consultation Records OCS CSEP	Prior to construction, and during construction	Construction Traffic Manager / Community Stakeholder Manager	TfNSW QA specification G10
TT05B	Consultation with affected businesses and properties where pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties cannot be maintained. In accordance with NSW CoA E96 and REMM TT07, alternative pedestrian and vehicular access, and parking arrangements will be developed in consultation with affected businesses and implemented before the disruption	Consultation Records OCS CSEP	Prior to construction, and during construction	Construction Traffic Manager / Community Stakeholder Manager	NSW CoA E96 REMM TT07
<b>Dilapidation report and repairs</b>					

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT06	A Road Dilapidation Report must be prepared for local roads proposed to be used by heavy vehicles for works associated with the Project before the commencement of use by such vehicles.	Road Dilapidation Report	Prior to construction	Construction Traffic Manager	NSW CoA E95 REMM TT06
TT07	If damage to roads occurs as a result of the construction, CPBGG JV will rectify the damage to restore the road to at least the condition it was in pre-construction in consultation with the relevant road authority.	Consultation Records	On identification of damage	Construction Traffic Manager	NSW CoA E95
TT08	Independent Safety Audit(s) are to be undertaken by an appropriately qualified and experienced person during detailed design (audit of the plans) and prior to opening (pre-opening audit).	Independent Safety Audit Report	Prior to the commencement of construction Prior to operations	Construction Traffic Manager	NSW CoA E98
<b>Access and Property</b>					

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT09	<p>Consultation will be undertaken with affected businesses and properties where pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties cannot be maintained. All reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised.</p>	<p>Site specific Traffic Management Plans</p>	<p>During construction</p>	<p>Construction Traffic Manager</p>	<p>NSW CoA E96 REMM TT07</p>
TT10	<p>Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected businesses and implemented before the disruption. Adequate signage and directions to businesses must be provided before, and for the duration of, any disruption</p>	<p>Consultation Records</p>	<p>During construction</p>	<p>Construction Traffic Manager</p>	<p>NSW CoA E96 REMM TT07</p>
TT11	<p>Safe pedestrian and cyclist access must be maintained around work sites during construction. In circumstances where pedestrian and cyclist access is restricted or removed due to construction activities, an alternate route which complies with the relevant standards must be provided and signposted.</p> <p>Consideration must also be given to CPTED principles when designing and implementing alternative routes.</p>	<p>Vehicle Movement Plans / Pedestrian Movement Plans</p>	<p>During construction</p>	<p>Construction Traffic Manager</p>	<p>NSW CoA E99 NSW CoA E63 ISCA</p>

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT12	Active transport facilities must be designed, constructed and / or rectified in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling and relevant AS 1428.1-2009 Design for access and mobility.	Design Report	Detailed design Construction	Construction Traffic Manager Supervisor	NSW CoA E63
TT13	A Signage Strategy will be prepared to provide for appropriate signage for businesses where existing signage is obscured/no longer visible or where customers are required to use alternative access to reach the businesses during construction.	Signage Strategy	Prior to construction impacting properties	Construction Traffic Manager	REMM TT08
TT14	Property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that impact the property will be carried out in consultation with property owners/ business managers.	Consultation Records	Prior to construction impacting properties	Construction Traffic Manager Communications Manager	REMM SLP04
TT15	Construction activities will be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (e.g. stock access, access to farm dams, etc) unless otherwise agreed by the landowner.	Consultation Records	During construction	Construction Manager Communications Manager	NSW CoA E79 REMM SLP07
<b>Traffic Management</b>					

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT17	When planning and carrying out traffic management, comply with the TfNSW Traffic Control at Work Sites Manual (TCWS)	Site specific Traffic Management Plans	Prior to construction, and during construction	Construction Traffic Manager	TfNSW QA specification G10
TT18	Site specific TMP conforming to the TfNSW Traffic Control at Worksites manual will be developed for the works. These plans will contain additional written details describing the nature of the works.	Site specific Traffic Management Plans	Prior to construction	Construction Traffic Manager	TfNSW QA specification G10
TT19	Traffic Staging Plans conforming to the TfNSW Traffic Control at Worksites manual will be developed showing how traffic will pass safely through the Site during the various construction stages.	Traffic Staging Plans	Prior to construction, and during construction	Construction Traffic Manager	TfNSW QA specification G10
TT20	Traffic Control Plans conforming to the TfNSW Traffic Control at Worksites manual will be developed showing signs and devices arranged to warn traffic and to guide it around, past or if necessary, through a work site or temporary hazard	Traffic Control Plans	Prior to construction, and during construction	Construction Traffic Manager	TfNSW QA specification G10
TT21	Where applicable, Vehicle Movement Plans and Pedestrian Movement Plans will be developed and prepared with Traffic Control Plans.	Vehicle Movement Plans / Pedestrian Movement Plan	Prior to construction, and during construction	Construction Traffic Manager	TfNSW QA specification G10

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT22	A Traffic Incident Management Plan will be developed and implemented. The Traffic Incident Management Plan will be developed in consultation with the Traffic Management Centre, Sydney Metro, WSIA, Liverpool City Council and Penrith City Council as relevant.	Traffic Incident Management Plan	Prior to construction	Construction Traffic Manager	TfNSW QA specification G10
TT23	Undertake traffic audits and monitoring inspections in accordance with Section 6.5 and Section 6.7 of this CTTMP.	Monitoring and Audit Records	Prior to construction	Construction Traffic Manager	TfNSW QA specification G10
TT24	Construction vehicle movements (both on and offsite) will be managed to minimise noise impacts. Where feasible, this will include (but not be limited to): Establishment and use of internal haul routes, or existing major roads where this is not feasible Restriction of heavy vehicle movements to standard construction hours Locating traffic marshalling areas away from residences to minimise noise impacts from idling vehicles Instructing workers on the operation of heavy vehicles entering and exiting the site to minimise noise.	Construction Noise and Vibration Management Plan	During Construction	Construction Traffic Manager	REMM NV12



ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT24a	Working Adjacent to Traffic - Where a temporary roadway or a detour is not provided or available, then subject to the approval of the Principal, construction under or adjacent to traffic may be permitted provided the requirements of Annexure G10/A are observed.	Traffic control plans	During Construction	Construction Traffic Manager	TfNSW QA specification G10
TT24b	Upon completion of the Works, remove the temporary roadways and/or detour arrangements and restore the area to a condition equivalent to that which existed prior to the commencement of the work. Before opening to Traffic Upon Completion - complete requirements as per G10 Clause 7.	Traffic control plans	During Construction	Construction Traffic Manager	TfNSW QA specification G10
<b>Public Transport</b>					
TT25	Changes to bus stops will be implemented in consultation with TfNSW, relevant councils, and relevant bus operators. Alternate temporary bus stops will be provided with appropriate signage to direct commuters. Safe access will be provided in accordance with relevant safety and accessibility standards.	Consultation Records	During construction	Construction Traffic Manager	REMM TT02
<b>Spoil Haulage</b>					

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT26	CPBGG JV must ensure that all heavy vehicles used for spoil haulage are clearly marked on the sides and rear with the project name and CSSI name (or where the CSSI is staged, the name of that stage) with signage approved by DPE to enable immediate identification by a person viewing the heavy vehicle.	DPE Approval	Prior to construction	Construction Traffic Manager	NSW CoA A49
TT26A	Only one CSSI form of signage must be placed on a heavy vehicle at any one time. This will be checked by the CPBGG JV upon heavy vehicle entry and exit from site	DPE Approval	Prior to construction	Construction Traffic Manager	NSW CoA A49
TT27	Heavy vehicles used for spoil haulage and concrete deliveries associated with the Project are not permitted to use local roads within one (1) kilometre of the Project, unless approved by the Planning Secretary. This includes movements associated with waiting to access construction ancillary facilities and work areas. All local roads approved for use by the Planning Secretary must be identified in the Traffic and Transport CEMP Sub-plan.	Haulage Routes	During construction	Construction Traffic Manager	NSW CoA E93 NSW CoA E94

ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
TT28	Movements of haulage vehicles will be planned to minimise movements on the road network during the AM and PM peak periods where practicable. Where haulage routes pass schools, childcare facilities and/or aged care facilities, heavy vehicle movements during operational peak hours of these facilities will also be minimised where practicable. Monitoring of this will occur.	Stage specific CTMP	Prior to construction and during construction	Construction Traffic Manager	REMM TT03
<b>Design</b>					
TT29	If temporary new roadways and detours, or adjustments to existing lane configurations and road geometry, are required as part of traffic staging, they must be designed in accordance with the relevant design standards.	Design Report	Detailed design	Road designer	TfNSW QA specification G10
TT30	Traffic signals must be coordinated to minimise congestion and manage traffic flows.	Design Report	Detailed design	Road designer	REMM TT09
TT31	Traffic management including any temporary roadways constructed must cater for oversized vehicles up to 10m wide through the worksite at all times, day and night.	Design Report	Detailed design	Road designer	TfNSW QA specification G10
<b>Dangerous Goods</b>					
TT32	Transport all hazardous goods in accordance with the Dangerous Goods (Road and Rail Transport)	Procurement processes Inspections of deliveries	As required when transporting Dangerous Goods	Construction Traffic Manager Transportation Sub-Contractors	TfNSW QA specification G36



ID	Management Measure	Evidence of implementation	When to implement	Responsibility for implementation	Reference or source
	Act 2008 (NSW) and the Dangerous Goods (Road and Rail Transport) Regulation 2014 (NSW).				

## 6 Compliance management

### 6.1 Roles and responsibilities

The Project organisational structure and overall roles and environmental responsibilities are outlined in Section 3.3 of the CEMP. Specific responsibilities for the implementation of traffic management are detailed in the site Specific G10 and duplicated below.

#### 6.1.1 Traffic Manager

CPBGG JV will provide a Traffic Manager (dedicated resource) the Project. The Traffic Manager will hold a current "Prepare Work Zone Traffic Management Plan" qualification and will be responsible for the overall management of traffic and road safety for the applicable stage of the Project. The Traffic Managers responsibilities include:

- ensuring that the approved traffic management measures are implemented and maintained in accordance with the approved plans;
- carrying out regular inspections of the traffic control measures to ensure that they are effective;
- amending and updating the plans, as required, to ensure that they remain current as the work progresses;
- identifying situations where traffic congestion, or unsafe conditions for vehicles, cyclists, pedestrians and workers, are occurring and providing recommendations for improvement;
- maintaining current copies of the Traffic Management Plan and its various component plans, lane road occupancy licences and speed zone authorisations, and their controlled distribution;
- keeping records of the Traffic Controllers' qualifications and ensuring that they are current;
- liaising and facilitating regular meetings with the Principal, other authorities and relevant parties (including meeting at least monthly with the Principal and GSO (TMC) together) on traffic management matters for the Site, maintaining records of these meetings and making them available to the relevant persons. Meetings include but are not limited to Traffic Coordination Groups (TCG's) and Traffic and Transport Liaison Groups (TTLG's);
- in conjunction with your Community Relations Manager, undertaking consultations with local businesses and residents;
- providing induction on traffic management measures to site personnel;
- recording and reporting on all traffic incidents;
- preparing monthly reports on traffic management matters (refer Clause 4.7.2);
- developing TMP's and TCP's and obtaining required approvals from the Principal and relevant authorities of all traffic management measures on site;
- arranging traffic control audits and implementing audit close outs;
- regularly monitoring the traffic flow to ensure compliance with the Contract;
- updating the project monthly report on all traffic related measures (recording and reporting on all traffic crash/ incident);
- weekly reporting compliance and noncompliance with ROL conditions, speed management and queue management;
- consultation on traffic matters with local businesses and residents;
- arranging the design and certification of site entry and exit facilities to ensure compliance with the nominated main line speed requirements both within and outside ROL licence time periods;
- providing GSO (TMC) and the Principal with look ahead programs; and,
- undertaking traffic-based risk assessments of the Works Under the Contract.

#### 6.1.2 Traffic Controllers

Traffic controllers will be appointed by the Traffic manager solely for the purposes of the Contract to provide for the safe movement of traffic around, past or through the work site. Traffic Controllers controlling and directing traffic will hold a current "Traffic Controller" qualification.

### 6.1.3 Road Designer

If temporary new roadways and detours, or adjustments to existing lane configurations and road geometry, are required as part of traffic staging, they will be designed in accordance with the relevant design standards, engineering and safety guidelines by a suitably qualified and experienced road designer.

## 6.2 Community notification

An OCS has been prepared in accordance with the requirements of NSW CoA B1 and B2 to document the approach to stakeholder and community communications for the Project. The OCS identifies opportunities and tools for providing information and consulting with the community and stakeholders during the construction of the Project. CPBGGJV will support the delivery of the OCS through its implementation of the CSEP prior to traffic management.

Traffic and transport management information will be communicated to the community and stakeholders in accordance with the principles and procedures outlined in the OCS and CSEP. CPBGG JV will provide timely, accurate, relevant and accessible information about changed traffic and access arrangements, potential delays to road users and local communities, and out of hours works, with provision for feedback through a complaints line during construction.

Various communication methods relating to traffic management will be enacted as appropriate and may include, but are not limited to:

- TfNSW Website
- Social media posts
- Community updates (newsletters)
- Local newspaper advertisements
- Notification letters
- Live Traffic NSW
- Traffic alerts and media releases
- Variable message signs
- Community forums / information events.

For further detail on the measures implemented for advising the community in advance of upcoming work, including upcoming out-of-hours work, refer to the OCS and CSEP.

## 6.3 Training

To ensure that this Plan is effectively implemented, all site personnel (including sub-contractors) will undergo site induction training that includes traffic and transport management issues prior to construction commencing. The induction training will address elements related to traffic and transport management, including:

- Existence and requirements of this CTTMP, the Site TMP and all plans and procedures
- Relevant legislation, regulations, licences, EPL conditions and permit requirements
- Incident response, management and reporting
- Road safety
- Road occupancy
- Construction hours
- Complaints response and reporting
- Roles and responsibilities for traffic management
- Temporary and interim traffic arrangements
- Response procedure for dealing with traffic incidents.

Daily pre-start meetings conducted by the Site Supervisor will inform the site workforce of any environmental issues relevant to traffic that could potentially be impacted by, or impact on, the day's activities.

Further details regarding staff induction and training are provided in Section 3.5 of the CEMP.

## 6.4 Traffic management risk assessment workshop

CPBGGJV will undertake a Traffic Management Risk Assessment Workshop to identify and address the risks associated with traffic management, road safety and other road network issues specific to each stage of the Project. Each risk is to have identified controls which are to follow SMART (Specific, Measurable, Achievable, Realistic and Timely) principles.

The workshop will be attended by the CPBGG JV Traffic Manager, road designers, TfNSW personnel involved in reviewing the Site TMP, the TfNSW Senior Environment Officer (or delegate) and representatives from Penrith City Council and Liverpool City Council. Where appropriate, representatives of nearby schools, emergency services, affected bus companies, local businesses, and utility owners will be invited.

The outcomes of the workshop will be documented in the Project HSEQ Risk Register. The identified risks will be managed through the design and implementation of specific, measurable, achievable, realistic and timely measures within the site Traffic Control Plans.

## 6.5 Hold Points

As nominated in TfNSW Specifications approval is required from the TfNSW Representative prior to commencement, or recommencement, of certain activities. Hold Points will be incorporated into work procedure documentation (e.g. CAPs, Work Packs and/or ITPs). The TfNSW Representative will be provided with reasonable opportunity to witness any inspections and tests preceding the release of Hold Points. The release of a Hold Point by the TfNSW Representative will be documented and controlled. Table 6-1 lists TfNSW hold points relevant to traffic management for the Project.

Table 6-1: Hold Points (G1, G10) relevant to Traffic Management

TfNSW Hold and Witness Point References	Hold or Witness Point Details	Submission Details
G1, cl28	Hold Point: Commencement of construction activities	Pre-construction Road Dilapidation Report Inspect all roads, footpaths and utilities likely to be affected by the Work Under the Contract (WUC) before construction commences and prepare a Pre-construction Road Dilapidation Report Provide a copy of the Pre-Construction Road Dilapidation Report to the relevant council within three weeks of completion of the survey and at least two weeks before the road is used by a heavy vehicle associated with Construction.
G10, cl 1.7.4	Hold Point: Any work controlling and directing traffic on the Site.	Prior to the commencement of any work at the Site involving controlling and directing traffic, submit to the Principal the names of your proposed Traffic Controllers, and their qualification details such as registration numbers and expiry dates.
G10, cl2.1	Hold Point: Any WUC which will or is likely to require an existing road to be used in such a way that affects traffic flow.	At least 10 working days prior to the planned commencement of the activity requiring the road occupancy, submit an application for a Road Occupancy Licence.
G10, cl 2.2.1	Hold Point: Submission of application for ROL	At least 30 days prior to the proposed date of submission of application for the ROL, or any shorter period agreed to by the Principal, submit your Traffic Management Plan, comprising the elements stated in Clause 2.2.3

TfNSW Hold and Witness Point References	Hold or Witness Point Details	Submission Details
G10, cl2.4.1	Hold Point: Any activity which will affect traffic conditions for a particular section of the Site	If not previously submitted as part of the TMP or where a TMP is not required, at least 3 working days prior to its proposed use, submit your Traffic Control Plan comprising the details listed in Clause 2.44 (where applicable). Include the Vehicle Movement Plan and Pedestrian Movement Plan, Road Safety Audit (closed out), and copies of any associated ROL and SZA obtained.
G10, cl 4.4.2	Hold Point: Implementation of traffic switch or opening of temporary roadway and detour to traffic	At least one day prior to the intended date of opening the temporary roadways to traffic, notify the Principal in writing that the traffic control measures is conforming and ready for inspection by the Principal.

## 6.6 Inspections and monitoring

Inspection and monitoring requirements relevant to traffic and transport are summarised in Table 6-2. Specific requirements for inspection of traffic management will be carried out in accordance with the TCWS Manual (TfNSW, 2020). Inspections of temporary traffic controls during construction will focus on monitoring compliance against TCP/VMP and identifying safety hazards to enable implementation of corrective solutions.

Table 6-2: Inspections and monitoring relevant to traffic and transport

Inspection / monitoring	Frequency	Responsibility	Reference
Traffic control plan inspection Ensure all traffic control signs and devices are functioning and implemented in the correct location	Daily	CPBGG JV Traffic Manager	TfNSW QA Specification G10 Traffic Control at Work Sites Manual
Traffic management risk assessment checklist	Daily	CPBGG JV Traffic Manager	TfNSW QA Specification G10 Traffic Control at Work Sites Manual
Traffic control safety inspection Ensure traffic control plans implemented are approved and Construction sites are operating safely	Monthly	CPBGG JV Traffic Manager	TfNSW QA Specification G10 Traffic Control at Work Sites Manual
Traffic control plan inspection Ensure that the pavement markings, road signs and other traffic control devices have been installed in accordance with the TCP.	Prior to opening the temporary roadways to traffic	CPBGG JV Traffic Manager	TfNSW QA Specification G10
ROL compliance monitoring	Weekly or as required for traffic switches	CPBGG JV Traffic Manager	TfNSW QA Specification G10
Road dilapidation inspection	Pre-Construction and prior to Completion	CPBGG JV Traffic Manager	NSW CoA E95 REMM TT06
Real time monitoring of off-site heavy haulage vehicles	At all times during off-site haulage	CPBGG JV Traffic Manager	TfNSW QA Specification G1 (cl43)

Requirements and responsibilities in relation to monitoring and inspections are documented in Section 3.9 and Appendix A8 of the CEMP.

## 6.7 Auditing



Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan, CoA and other relevant approvals, licenses and guidelines. Audit requirements are detailed in Section 3.9.3 of the CEMP.

### 6.7.1 Construction road safety audits

Prior to its initial implementation and whenever significant changes are made to the TMP, a road safety audit will be carried out in accordance with the requirements in the NSW Centre for Road Safety publication Guidelines for Road Safety Audit Practices and AGRS06 Austroads Guide to Road Safety Part 6: Implementing Road Safety Audits and QA Specification G10.

If a road safety audit of the TMP has been undertaken, then within 24 hours of a traffic switch on to temporary roadways or detours, a road safety audit of the implemented traffic control measures at both daytime and night-time will be conducted.

### 6.7.2 Independent road safety audit prior to opening

In accordance with NSW CoA E98, independent road safety audit(s) will be undertaken by an appropriately qualified and experienced person during detailed design (audit of the plans) and prior to opening (pre-opening audit) to assess the safety performance of new or modified roads (road safety audit), parking, pedestrian and cycle infrastructure provided as part of the Project (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management.

The audit findings and recommendations of the detailed design plans (audit of the plans) will be actioned prior to construction of the relevant infrastructure. The pre-opening audit findings and recommendations will be actioned prior to the relevant infrastructure being made available for use. All audit findings must be made available to the Planning Secretary on request, within the timeframe stated in the request.

## 6.8 Reporting and identified records

Reporting requirements and responsibilities are documented in the 3.9 and 3.11 of the CEMP.

Reporting requirements relevant to traffic and transport are summarised in Table 6-3.

CPBGG JV maintain accurate records substantiating all construction activities associated with the Project or relevant to the CoA, including measures taken to implement this CTTMP. Records will be made available to the DPE and DAWE upon request, within the timeframe nominated in the request.

Table 6-3: Reporting requirements relevant to traffic management

Report	Frequency	Recipient	Responsibility	Timing	Reference
Road Dilapidation Report (local roads)	Within three weeks of completing the surveys and at least two weeks before the use of the local roads by heavy vehicles.	Penrith, Liverpool, Fairfield City Council(s)	CPBGG JV Traffic Manager	Prior to construction	NSW CoA E95 REMM TT06
Traffic Management Report	Monthly	TfNSW	CPBGG JV Traffic Manager	Prior to construction	TfNSW QA Specification G10
Traffic Incident Reporting	Following a traffic incident	TfNSW	CPBGG JV Traffic Manager	Where required	TfNSW QA Specification G10
Construction Road Safety Audit	Prior to TMP implementation, when there are significant changes to TMP, within 24 hours of a traffic switch	TfNSW	CPBGG JV Traffic Manager	Where required	TfNSW QA Specification G10
Independent Road Safety Audit	During design development (audit of the plans) and	Audit findings must be made available to Planning	CPBGG JV Traffic Manager	Prior to operation	NSW CoA E98

	prior to opening (pre-opening audit)	Secretary on request, within the timeframe stated in the request			
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## 7 Review and improvement

### 7.1 Continuous improvement

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

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of traffic management
- Identify environmental risks not already included in the risk register
- Determine the cause or causes of non-conformances and deficiencies
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies
- Verify the effectiveness of the corrective and preventative actions
- Document any changes in procedures resulting from process improvement
- Make comparisons with objectives and targets.

CPBGG JV will be responsible for ensuring project environmental risks are identified and included in the risk register and appropriate mitigation measures implemented throughout the construction of the Project as part of the continuous improvement process. The process for ongoing risk identification and management during construction is outlined in Section 3.2.1 of the CEMP.

### 7.2 CTTMP update and amendment

The processes described in Section 3.8, 3.10 and 3.12 of the CEMP may result in the need to update or revise this CTTMP. This will occur as needed.

Any revisions to the CTTMP will be in accordance with the process outlined in Section 3.11 and 3.13 of the CEMP.

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

The review and document control processes for this CTTMP is described in Section 3.13 of the CEMP.

## Appendix A – Secondary CoA and REMMs

## CoA

CoA	Condition Requirements	Document Reference
A5	Where the terms of this approval require a document or monitoring program to be prepared or a review to be undertaken and submitted to the Planning Secretary, and the terms of this approval require the document, monitoring program or review to be prepared/undertaken in consultation with identified parties, evidence of the consultation must be submitted to the Planning Secretary with the relevant document, monitoring program or review. The evidence must include:	Section 1.4 Section 1.5
	(a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval;	
	(b) a log of the dates of engagement or attempted engagement with the identified party;	
	(c) documentation of the follow-up with the identified party where engagement has not occurred to confirm that they do not wish to engage or have not attempted to engage after repeated invitations;	
	(d) outline of the issues raised by the identified party and how they have been addressed; and	
A7	References in the terms of this approval to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this approval.	Section 3.1
A49	All heavy vehicles used for construction spoil haulage must be clearly marked on the sides and rear with the CSSI name (or where the CSSI is staged, the name of that stage) to enable immediate identification by a person viewing the heavy vehicle. Details of the CSSI identification markings must be submitted to the Planning Secretary for approval and approved prior to the heavy vehicles being used for construction spoil haulage. There must only be one CSSI form of signage on a heavy vehicle at any one time.	Section 5.2
E63	Active transport facilities must be designed, constructed and/or rectified in accordance with the Guide to Road Design Part 6A: Paths for Walking and Cycling (Austroads, 2017) and relevant Australian Standards (AS) such as 1428.1-2009 Design for access and mobility. The active transport links must also incorporate relevant Crime Prevention Through Environmental Design principles.	Section 5.7
E79	The CSSI must be delivered in a manner that minimises intrusion, as far as reasonably practicable, and disruption to agricultural operations/activities in surrounding properties (e.g. stock access, access to farm dams, etc.), unless otherwise agreed by the landowner	Section 5.9
E93	The Planning Secretary's approval is required before any heavy vehicles used for spoil and fill haulage or concrete deliveries (for the purpose of the CSSI) are driven on local roads within one (1) kilometre of early works, construction and construction ancillary facilities and that are not identified for use by heavy vehicles in the documents listed in Condition A1. The local roads must be identified in the Early Works Environment Management Plan and Traffic Management CEMP Sub-plan.	Section 5.2
E94	All requests to the Planning Secretary for approval to use local roads in accordance with Condition E93, must include a traffic and pedestrian impact assessment and be prepared in consultation with the relevant local council(s). The assessment must be undertaken by an appropriately qualified and experienced person and must include a swept path analysis if required by the Department. The traffic and pedestrian impact assessment must:	Section 5.2.1

	<p>(a) demonstrate that the use of local roads will not compromise the safety of the public and have no more than minimal amenity impacts;</p> <p>(b) provide details as to the date of completion of the road dilapidation surveys for the subject local roads; and</p> <p>(c) describe the measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and childcare facilities during peak times for operation.</p> <p>The outcomes and recommendations of the traffic and pedestrian impact assessment must be incorporated into the Site Establishment Management Plan or Traffic Management CEMP Sub-plan as relevant.</p>	
E95	<p>Before any local road is used by a heavy vehicle for the purposes of the CSSI, a Road Dilapidation Report must be prepared for the road unless otherwise agreed by the relevant road authority. A copy of the Road Dilapidation Report must be provided to the relevant road authority within three (3) weeks of completion of the survey and at least two (2) weeks before the road is used by heavy vehicles associated with the construction of the CSSI.</p> <p>If damage to roads occurs as a result of the construction of the CSSI, the Proponent must rectify the damage to restore the road to at least the condition it was in pre-construction in consultation with the relevant road authority. Rectification works must be undertaken within three (3) months of the subject road no longer being used for the construction of the CSSI unless an alternative timeframe is agreed to by the relevant road authority.</p>	Section 5.9 Section 5.11
E96	<p>During construction, all reasonably practicable measures must be implemented to maintain pedestrian and vehicular access to, and parking in the vicinity of, residences, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian and vehicular access, and parking arrangements must be developed in consultation with affected residents, businesses and affected property owners and implemented before the disruption. Adequate signage and directions to businesses must be provided before, and for the duration of, any disruption.</p>	Section 5.9
E97	<p>The CSSI (including new or modified local roads, parking, pedestrian and cycle infrastructure) must be designed to meet relevant design, engineering and safety guidelines, including the Austroads Guide to Traffic Management.</p>	Section 6.1.3
E98	<p>An independent Road Safety Audit is to be undertaken by an appropriately qualified and experienced person during design development (audit of the plans) and prior to opening (pre- opening audit) to assess the safety performance of new or modified roads (road safety audit), parking, pedestrian and cycle infrastructure provided as part of the CSSI (including ancillary facilities) to ensure that they meet the requirements of relevant design, engineering and safety guidelines, including Austroads Guide to Traffic Management.</p> <p>Audit findings and recommendations of the detailed design plans (audit of the plans) must be actioned before construction of the relevant infrastructure. The pre-opening audit findings and recommendations must be actioned prior to the relevant infrastructure being made available for use. All audit findings must be made available to the Planning Secretary on request, within the timeframe stated in the request.</p>	Section 6.6
E99	<p>Safe pedestrian and cyclist access must be maintained around work sites during Work. In circumstances where pedestrian and cyclist access is restricted or removed due to Work, an alternate route which complies with the relevant standards must be provided and signposted</p>	Section 5.7

## REMMs

REMM	Condition Requirements	Document Reference
TT02	<p>Changes to bus stops will be implemented in consultation with TfNSW, relevant councils, and relevant bus operators. Alternate temporary bus stops will be provided with appropriate signage to direct commuters. Safe access will be provided in accordance with relevant safety and accessibility standards.</p>	Section 5.8

REMM	Condition Requirements	Document Reference
TT03	Movements of haulage vehicles will be planned to minimise movements on the road network during the AM and PM peak periods where practicable.	Section 5.2
TT04	Consultation will be carried out with the operators of the M7 Motorway to develop measures to manage the potential impacts of construction within the operating M7 Motorway corridor.	Section 1.5.2
TT06	A road dilapidation report will be prepared before impacts on local roads in consultation with relevant councils and other relevant stakeholders. The report will document the existing conditions of local roads and outline measures to repair damage to roads from heavy vehicle movements associated with the project.	Section 5.11
TT07	Existing property access would be maintained at all times. Any changes to access arrangements or alternative access that are necessary during construction will be done with consultation with the landowner. Any changes to access will provide the same equivalent pre-existing level of access unless agreed to by the land owner. Property access that is physically affected by the project will be reinstated to at least an equivalent standard, in consultation with the landowner.	Section 1.5.2 Section 5.9
TT08	A signage strategy will be prepared as part of the CTTMP to provide for appropriate signage for businesses where existing signage is obscured/no longer visible or where customers are required to use alternative access to reach the businesses during construction.	Section 5.6
SLP04	Property adjustments, including replacement of farm infrastructure (such as fencing) and relocation of property access, prior to work that impact the property will be carried out in consultation with property owners/ business managers.	Section 5.9
SLP07	Construction activities will be planned to minimise disruption to existing agricultural operations/activities in surrounding properties where feasible and reasonable (e.g. stock access, access to farm dams, etc) unless otherwise agreed by the landowner.	Section 5.9
NV12	Construction vehicle movements (both on and offsite) will be managed to minimise noise impacts. Where feasible, this will include (but not be limited to): <ul style="list-style-type: none"> <li>• Establishment and use of internal haul routes, or existing major roads where this is not feasible</li> <li>• Restriction of heavy vehicle movements to standard construction hours</li> <li>• Locating traffic marshalling areas away from residences to minimise noise impacts from idling vehicles</li> <li>• Instructing workers on the operation of heavy vehicles entering and exiting the site to minimise noise.</li> </ul>	Section 5.16 CNVMP