

# Moorebank Precinct East - Stage 2 Proposal

## Preliminary Construcion Traffic Management Plan



**SIMTA**

SYDNEY INTERMODAL TERMINAL ALLIANCE

Part 4, Division 4.1, State Significant  
Development



# CONTACT

**MICHAEL YONG**  
Integrated Transport Planning  
Manager

**T** + 61 7 3337 0822

**M**+ 61 0 488 415 227

**E** Michael.Yong@arcadis.com

**Arcadis**

Level 25, 288 Edward Street,  
Brisbane, QLD 4000, Australia



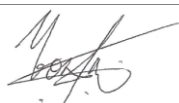
# MOOREBANK PRECINCT EAST - STAGE 2 PROPOSAL

## Preliminary Operational Traffic Management Plan

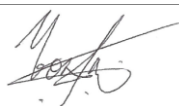
**Author** Luke Goldsworthy



**Checker** Michael Yong



**Approver** Michael Yong



**Revision** D – Final for Public Display

This report has been prepared for Qube Property Management Services Pty Ltd in accordance with the terms and conditions of appointment for 1113176601v8 Design and Planning Services Agreement dated 22 June 2016. Arcadis Australia Pacific Pty Limited (ABN 76 104 485 289) cannot accept any responsibility for any use of or reliance on the contents of this report by any third party.

## REVISIONS

Revision	Date	Description	Prepared by	Approved by
A	Oct 2016	First Draft – Internal Review	LG	MY
B	Nov 2016	Second Draft - Internal Review	LG	MY
C	Nov 2016	Final for DP&E Adequacy Review	LG	MY
D	Dec 2016	Final for Public Display	LG	MY



# CONTENTS

<b>1 INTRODUCTION</b>	<b>5</b>
1.1 MPE Stage 2 Proposal Overview	5
1.2 Report purpose	7
1.3 Report structure	11
1.3.1 Proposal components and key terms	12
<b>2 SITE DESCRIPTION</b>	<b>15</b>
2.1 Regional Context	15
2.2 Local Context	15
2.3 Proposal overview	19
2.4 Built form	20
2.4.1 Warehousing	20
2.4.2 Freight village	23
2.4.3 Vehicle movement and access	23
2.4.4 Roadworks – Moorebank Avenue	25
2.5 Ancillary infrastructure	26
2.6 Operational hours	26
2.7 Proposal Traffic Generation	26
2.8 Impact at Key Road Sections	26
<b>3 OPERATIONAL TRAFFIC MANAGEMENT PLAN</b>	<b>28</b>
3.1 Overall principles for traffic management	28
3.1.1 Objectives	28
3.1.2 Regulatory requirements	28
3.1.3 Performance criteria	29
3.1.4 Implementation and Operation	29
3.2 Proposal Operational Framework	29
3.2.1 Operations overview	29
3.2.2 Hours of operation	31
3.2.3 Proposed site access	31
3.2.4 Public transport accessibility	34
3.2.5 Cycle access	34
3.2.6 Pedestrian access	34
3.3 Proposal operational traffic	37

<b>4 DESCRIPTION OF TRAFFIC MANAGEMENT CONTROLS .....</b>	<b>38</b>
<b>4.1 Workplace safety training.....</b>	<b>38</b>
4.1.1 Induction safety training .....	38
<b>4.2 Liaison with stakeholders .....</b>	<b>38</b>
<b>5 TRAFFIC MANAGEMENT PROCEDURES.....</b>	<b>39</b>
<b>5.1 Heavy Vehicle Movements .....</b>	<b>39</b>
<b>5.2 Safety and amenity of road users and public .....</b>	<b>39</b>
<b>5.3 Information signage, distance information and advance warning.....</b>	<b>40</b>
<b>5.4 Incident management .....</b>	<b>40</b>
<b>6 INSPECTIONS AND MONITORING .....</b>	<b>41</b>
<b>6.1 Inspections .....</b>	<b>41</b>
<b>6.2 Monitoring.....</b>	<b>41</b>
<b>6.3 Corrective Actions .....</b>	<b>41</b>
<b>7 REVIEW AND IMPROVEMENT.....</b>	<b>42</b>
<b>8 DOCUMENTATION .....</b>	<b>42</b>
<b>8.1 Document Control .....</b>	<b>42</b>
<b>8.2 Records.....</b>	<b>43</b>

## FIGURES

Figure 1-1 Structure for Traffic and Transport related reporting for the MPE Stage 2 Proposal.....	9
Figure 1-2 Overview of the Proposal .....	10
Figure 2-1 Regional context of the Proposal .....	17
Figure 2-2 Local context of the Proposal.....	18
Figure 2-3 Indicative warehousing layout .....	22
Figure 3-1 Moorebank Avenue Access Strategy for MPE Stage 2 Operation .....	30
Figure 3-2 Traffic Circulation within MPE Stage 2.....	33
Figure 3-3 Existing Bus Stop Locations.....	35
Figure 3-4 Proposed Pedestrian and Cyclist Connectivity .....	36



# TABLES

Table 1-1 Secretary’s Environmental Assessment Requirements relevant to this study .....	7
Table 1-2 Statement of Commitments relevant to this study .....	8
Table 1-3 Concept Plan Conditions of Approval .....	8
Table 1-4 Key Terms.....	12
Table 2-1 Distance to residential suburbs from the Proposal site .....	16

This page has been left blank intentionally

# 1 INTRODUCTION

Concept Plan Approval (MP 10\_0193) for an intermodal terminal (IMT) facility at Moorebank, NSW (the Moorebank Precinct East Project (MPE Project) (formerly the SIMTA Project)) was received on 29 September 2014 from the NSW Department of Planning and Environment (DP&E). The Concept Plan for the MPE Project involves the development of an IMT, including a rail link to the Southern Sydney Freight Line (SSFL) within the Rail Corridor, warehouse and distribution facilities with ancillary offices, a freight village (ancillary site and operational services), stormwater, landscaping, servicing, associated works on the eastern side of Moorebank Avenue, Moorebank, and construction or operation of any part of the project, which is subject to separate approval(s) under the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This Environmental Impact Statement (EIS) is seeking approval, under Part 4, Division 4.1 of the EP&A Act, for the construction and operation of Stage 2 of the MPE Project (herein referred to as the Proposal) under the Concept Plan Approval for the MPE Project, being the construction and operation of warehouse and distribution facilities.

This EIS has been prepared to address:

- The Secretary's Environmental Assessment Requirements (SEARs) (SSD 16-7628) for the Proposal, issued by NSW DP&E on 27 May 2016 (Appendix A).
- The relevant requirements of the Concept Plan Approval MP 10\_0913 dated 29 September 2014 (as modified) (Appendix A).
- The relevant requirements of the approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (No. 2011/6229, granted in March 2014 by the Commonwealth Department of the Environment (DoE)) (as relevant) (Appendix A).

This EIS also gives consideration to the MPE Stage 1 Project (SSD 14-6766) including the mitigation measures and conditions of consent as relevant to this Proposal.

This EIS has been prepared to provide a complete assessment of the potential environmental impacts associated with the construction and operation of the Proposal. This EIS proposes measures to mitigate these issues and reduce any unreasonable impacts on the environment and surrounding community.

## 1.1 MPE Stage 2 Proposal Overview

The Proposal involves the construction and operation of Stage 2 of the MPE Project, comprising warehousing and distribution facilities on the MPE site and upgrades to approximately 1.4 kilometres of Moorebank Avenue between the northern MPE site boundary and 120 metres south of the southern MPE site boundary.

Key components of the Proposal include:

- Warehousing comprising approximately 300,000m<sup>2</sup> GFA, additional ancillary offices and the ancillary freight village
- Establishment of an internal road network, and connection of the Proposal to the surrounding public road network
- Ancillary supporting infrastructure within the Proposal site, including:
  - Stormwater, drainage and flooding infrastructure
  - Utilities relocation and installation
  - Vegetation clearing, remediation, earthworks, signage and landscaping
- Subdivision of the MPE Stage 2 site

- The Moorebank Avenue upgrade would be comprised of the following key components:
  - Modifications to the existing lane configuration, including some widening
  - Earthworks, including construction of embankments and tie-ins to existing Moorebank Avenue road level at the Proposal's southern and northern extents
  - Raking of the existing pavement and installation of new road pavement
  - Establishment of temporary drainage infrastructure, including temporary basins and / or swales
  - Raising the vertical alignment by about two metres from the existing levels, including kerbs, gutters and a sealed shoulder
  - Signalling and intersection works
- Upgrading existing intersections along Moorebank Avenue, including:
  - Moorebank Avenue / MPE Stage 2 access
  - Moorebank Avenue / MPE Stage 1 northern access
  - Moorebank Avenue / MPE Stage 2 central access
  - MPW Northern Access / MPE Stage 2 southern emergency access

The Proposal would interact with the MPE Stage 1 Project (SSD\_6766) via the transfer of containers between the MPE Stage 1 IMT and the Proposal's warehousing and distribution facilities. This transfer of freight would be via a fleet of heavy vehicles capable of being loaded with containers and owned by SIMTA. The fleet of vehicles would be stored and used on the MPE Stage 2 site, but registered and suitable for on-road use. The Proposal is expected to operate 24 hours a day, seven days per week.

An overview of the Proposal is shown in Figure 1-6. To facilitate operation of the Proposal, the following construction activities would be carried out across and surrounding the Proposal site (area on which the Proposal is to be developed):

- Vegetation clearance
- Remediation works
- Demolition of existing buildings and infrastructure on the Proposal site
- Earthworks and levelling of the Proposal site, including within the terminal hardstand
- Drainage and utilities installation
- Establishment of hardstand across the Proposal site, including the terminal hardstand
- Construction of a temporary diversion road to allow for traffic management along the Moorebank Avenue site during construction (including temporary signalised intersections adjacent to the existing intersections) (the Moorebank Avenue Diversion Road)
- Construction of warehouses and distribution facilities, ancillary offices and the ancillary freight village
- Construction works associated with signage, landscaping, stormwater and drainage works.

The Proposal would operate 24 hours a day, 7 days a week.

The footprint and operational layout of the Proposal are shown on Figure 1-6. More information relating to the operations of the Proposal is provided below.

## 1.2 Report purpose

This report supports the Environmental Impact Statement (EIS) for the Proposal (refer to Section 2.3 below for an overview of the Proposal) and has been prepared as part of a State Significant Development (SSD) Application for which approval is sought under Part 4, Division 4.1 of the EP&A Act.

This report has been prepared to address:

- The Secretary's Environmental Assessment Requirements (SEARs) (SSD 16-7628) for the Proposal, issued by NSW DP&E on 27 May 2016.
- The relevant requirements of Concept Plan Approval MP 10\_0913 dated 29 September 2014 (as modified).
- The relevant requirements of the approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (No. 2011/6229, granted in March 2014 by the Commonwealth Department of the Environment (DoE)) (as relevant).

The SEARs, the Statement of Commitments and Concept Plan Conditions of Approval relevant to this study, and the section of this report where they have been addressed are provided in Table 1-1, Table 1-2, and Table 1-3, respectively.

**Table 1-1 Secretary's Environmental Assessment Requirements relevant to this study**

Ref No. / SEARs	Where Addressed	
	Document	Section
<b>4. Traffic and Transport</b>		
A Traffic Impact Assessment that assesses intersection and road network impacts, including impacts on Cambridge Avenue. The traffic assessment shall;		
i) provide an updated Traffic Management and Accessibility Plan for the operation of the facility including:		
i. measures to prevent heavy vehicles accessing residential streets to maintain the residential amenity of the local community	Preliminary Operational Traffic Management Plan	Entire document
ii. details of public transport services and facilities;		
iii. details of cyclist facilities; and		
iv. details of driver code of conduct.		

**Table 1-2 Statement of Commitments relevant to this study**

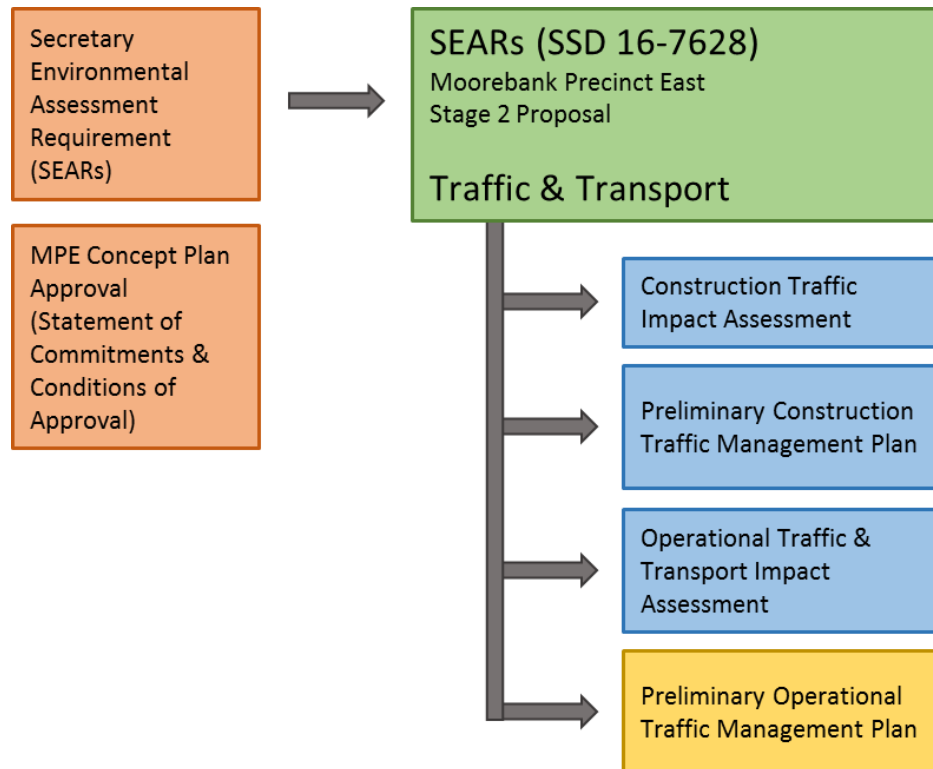
Ref No. / Statement of Commitments	Where Addressed	
	Document	Section
<b>Transport and Access</b>		
d) The Proponent commits to undertaking an actual truck trip generation survey after 24 months of operation and then progressively as the SIMTA site is developed	Preliminary Operational Traffic Management Plan	6.2
f) The Proponent commits to developing a Traffic Site Management Plan prior to the commencement of operations at the site to minimise the potential impacts, including: <ul style="list-style-type: none"> <li>a. Management measures to avoid trucks parking and idling either within or outside of the site boundaries</li> <li>b. Provision of adequate parking for heavy vehicles to accommodate any potential delays in schedule times</li> </ul>	Preliminary Operational Traffic Management Plan	5.2

**Table 1-3 Concept Plan Conditions of Approval**

Ref No. / Concept Plan Instrument of Approval	Where Addressed	
	Document	Section
<b>Traffic and Transport</b>		
Any future Development Application shall include a Traffic Impact Assessment that assesses intersection and road network impacts, including impacts on Cambridge Avenue. The traffic assessment shall: <ul style="list-style-type: none"> <li>e) provide an updated Traffic Management and Accessibility Plan including: <ul style="list-style-type: none"> <li>a. measures to prevent heavy vehicles accessing residential streets to maintain the residential amenity of the local community;</li> <li>b. public transport;</li> <li>c. cyclist facilities; and</li> <li>d. driver code of conduct</li> </ul> </li> </ul>	Preliminary Operational Traffic Management Plan	Entire document

The diagram below illustrates the document structure established for Traffic and Transport related reporting for the Proposal. Four standalone reports have been prepared to inform and support the required responses to the SEARs, MPE Concept Plan Approval CoA and SoC as identified in Figure 1-1. They are:

1. Construction Traffic Impact Assessment (CTIA)
2. Preliminary Construction Traffic Management Plan (PCTMP)
3. Operational Traffic and Transport Impact Assessment (OTTIA)
4. Preliminary Operational Traffic Management Plan (POTMP)



**Figure 1-1 Structure for Traffic and Transport related reporting for the MPE Stage 2 Proposal**

This report forms the Preliminary Operational Traffic Management Plan (POTMP) prepared to address requirements for traffic management of operational activities associated with the Proposal.

This POTMP should be read in conjunction with the three remaining standalone traffic reports including:

- Construction Traffic Impact Assessment;
- Preliminary Construction Traffic Management Plan; and
- Operational Traffic and Transport Impact Assessment.



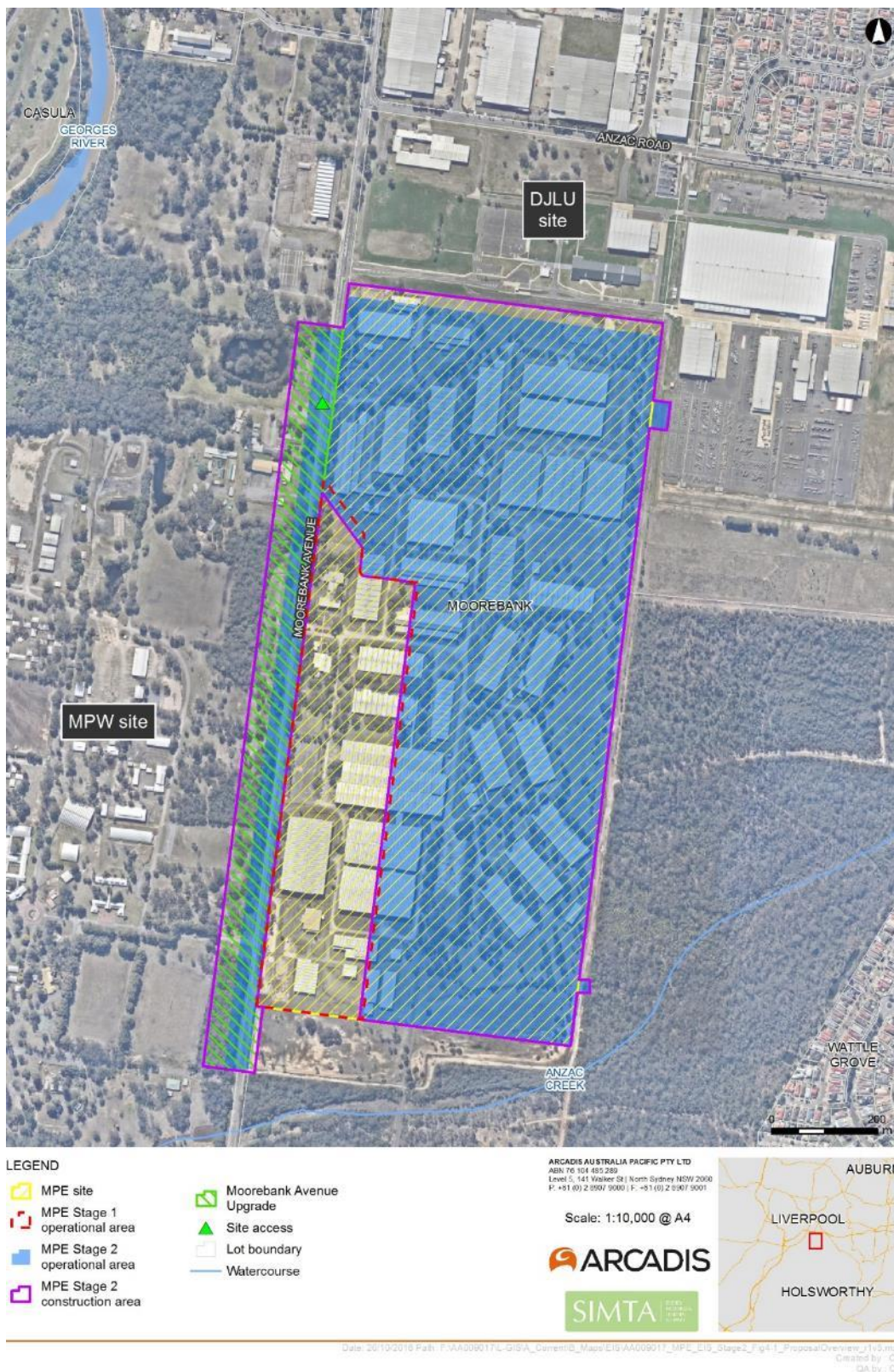


Figure 1-2 Overview of the Proposal



## 1.3 Report structure

This Preliminary Operational Traffic Management Plan (POTMP) contains the following chapters, outlining a strategy for the proposed Operational Traffic Management Plan (OTMP) that would be implemented during operations of the Proposal.

- Section 1 provides an overview of the Proposal, background information, report purpose, SEARs, the Statement of Commitments and Concept Plan Conditions of Approval requirements and reference to where they are addressed in the report.
- Section 2 outlines the site description and environment including road network, operations overview and the predicted implications to the traffic environment
- Section 3 outlines the operational framework and the access arrangements
- Section 4 provides an overview of traffic management controls proposed during operation of the Proposal
- Section 5 outlines traffic management procedures to ensure traffic during operations is managed accordingly
- Section 6 outlines procedural requirements for inspections and monitoring to ensure compliance with the operational traffic management plan
- Section 7 outlines the process for reviewing and improving the OTMP
- Section 8 outlines the documentation requirements for the OTMP.

### 1.3.1 Proposal components and key terms

Table 1-4 provides a summary of the key terms relevant to the Proposal, which are included throughout this report.

**Table 1-4 Key Terms**

Term	Definition
<b>General terms</b>	
AEP	Annual Exceedance Probability
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
AM	Morning Peak
CoA	Conditions of Approval
Cumulative traffic	Traffic generated by the Proposal, MPE Stage 1 and MPW Stage 2.
DP	Deposited Plan
EIS	Environmental Impact Statement
EOW	Explosive ordnance waste
EP&A Act	Environment Planning and Assessment Act
GFA	Gross Floor Area
IMT	Intermodal Terminal
IP	Inter-peak
JLU	Joint Logistics Unit
LoS	Level of Service
LMARI	Liverpool Moorebank Arterial Road Investigations
MIC	Moorebank Intermodal Company
MPE	Moorebank Precinct East
MPW	Moorebank Precinct West
Moorebank Precinct West (MPW) Project (formerly the MIC Project)	The MPW Intermodal Terminal Facility as approved under the MPW Concept Plan Approval (SSD_5066) and the MPW EPBC Approval (No. 2011/6086).
Moorebank Precinct West (MPW) site (formerly the MIC site)	The site which is the subject of the MPW Concept Plan Approval, MPW EPBC Approval and MPW Planning Proposal. The MPW site does not include the rail link as referenced in the MPW Concept Plan Approval or MPE Concept Plan Approval.
Moorebank Precinct East (MPE) Concept Plan Approval (formerly the SIMTA Concept Plan Approval)	MPE Concept Plan Approval (SSD_0193) granted by the NSW Department of Planning and Environment on 29 September 2014 for the development of former defence land at Moorebank to be developed in three stages; a rail link connecting the site to the Southern Sydney Freight Line, an intermodal terminal, warehousing and distribution facilities and a freight village.
Moorebank Precinct East (MPE) Project (formerly the SIMTA Project)	The MPE Intermodal Terminal Facility, including a rail link and warehouse and distribution facilities at Moorebank (eastern side of Moorebank Avenue) as approved by the

Term	Definition
	Concept Plan Approval (MP 10_0913) and the MPE Stage 1 Approval (14_6766).
Moorebank Precinct East (MPE) Site (formerly the SIMTA Site)	Including the former DSNDC site and the land owned by SIMTA which is subject to the Concept Plan Approval. The MPE site does not include the rail corridor, which relates to the land on which the rail link is to be constructed.
Statement of Commitments (SoC)	Recommendations provided in the specialist consultant reports prepared as part of the MPE Concept Plan application to mitigate environmental impacts, monitor environmental performance and/or achieve a positive environmentally sustainable outcome in respect of the MPE Project. The Statement of Commitments have been proposed by SIMTA as the Proponent of the MPE Concept Plan Approval.
PM	Evening Peak
Precinct Model	Whole of precinct traffic modelling for the ultimate “full-build” scenario
Proposal Model	Traffic modelling for MPE Stage 2
Proposal traffic	Traffic generated by the MPE Stage 2
RAE	Royal Australian Engineers
REMM	Revised Environmental Mitigation Measures
RMS	Roads and Maritime Service of NSW
RtS	Response to Submissions
SEARS	Secretary’s Environmental Assessment Requirements
SIMTA	Sydney Intermodal Terminal Alliance
SSD	State Significant Development
SSFL	Southern Sydney Freight Line
SRtS	Supplementary Response to Submissions
SME	School of Military Engineering
TEU	Twenty-foot Equivalent Unit
The Moorebank Precinct	Refers to the whole Moorebank intermodal precinct, i.e. the MPE site and the MPW site
The Proposal	MPE Stage 2
TfNSW	Transport for New South Wales
Trip	A movement with an origin and a destination
USTs	Underground storage tanks
UXO	Unexploded ordnance
VHT	Vehicle-hours travelled
VKT	Vehicle-kilometres-travelled
VPA	Voluntary Planning Agreement
WSP – PB	Parsons Brinkerhoff

Term	Definition
<b>MPE Stage 1 Project-specific terms</b>	
Rail Corridor	Area defined as the 'Rail Corridor' within the MPE Concept Plan Approval.
Rail Link	The rail link from the South Sydney Freight Line to the MPE IMEX Terminal, including the area on either side to be impacted by the construction works included in MPE Stage 1.
MPE Stage 1	Stage 1 (14-6766) of the MPE Concept Plan Approval for the development of the MPE Intermodal Terminal Facility, including the rail link at Moorebank. This reference also includes associated conditions of approval and environmental management measures which form part of the documentation for the approval.
MPE Stage 1 site	Includes the MPE Stage 1 site and the Rail Corridor, i.e. the area for which approval (construction and operation) was sought within the MPE Stage 1 Proposal EIS.
<b>MPE Stage 2 specific terms</b>	
MPE Stage 2 Proposal/ the Proposal	The subject of this EIS; being Stage 2 of the MPE Concept Plan Approval including the construction and operation of 300,000m <sup>2</sup> of warehousing and distribution facilities on the MPE site and the Moorebank Avenue upgrade within the Moorebank Precinct.
MPE Stage 2 site	The area within the MPE site which would be disturbed by the MPE Stage 2 Proposal (including the operational area and construction area). The MPE Stage 2 site includes the former DSNDC site and the land owned by SIMTA which is subject to the MPE Concept Plan Approval. The MPE site does not include the rail corridor, which relates to the land on which the rail link is to be constructed.
The Moorebank Avenue site	The extent of construction works to facilitate the construction of the Moorebank Avenue upgrade.
The Moorebank Avenue upgrade	Raising of the vertical alignment of Moorebank Avenue for 1.5 kilometres of its length by about two metres, from the northern boundary of the MPE site to approximately 120 metres south of the MPE site. The Moorebank Avenue upgrade also includes upgrades to intersections, ancillary works and the construction of an on-site detention basin to the west of Moorebank Avenue within the MPW site.
Construction area	Extent of construction works, namely areas to be disturbed during the construction of the MPE Stage 2 Proposal (the Proposal).
Operational area	Extent of operational activities for the operation of the MPE Stage 2 Proposal (the Proposal).

## 2 SITE DESCRIPTION

### 2.1 Regional Context

The MPE site, including the Proposal site, is located approximately 27 km south-west of the Sydney Central Business District (CBD) and approximately 26 km west of Port Botany. The MPE site is situated within the Liverpool Local Government Area (LGA), in Sydney's South West subregion, approximately 2.5 km from the Liverpool City Centre.

The MPE site is located approximately 800 m south of the intersection of Moorebank Avenue and the M5 Motorway. The M5 Motorway provides the main road link between the MPE site, and the key employment and industrial areas within Sydney's West and South-Western subregions, the Sydney orbital network and the National Road Network. The M5 connects with the M7 Motorway to the west, providing access to the Greater Metropolitan Region and NSW road network. Similarly, the M5 Motorway is the principal connection to Sydney's north and north-east via the Hume Highway. The regional context of the Proposal is shown on Figure 1-2.

### 2.2 Local Context

The Proposal site is located approximately 2.5 km south of the Liverpool City Centre, 800 m south of the Moorebank Avenue/M5 Motorway interchange and one kilometre to the east of the SSFL providing convenient access to and from the site for rail freight (via a dedicated freight rail line) and for trucks via the Sydney Motorway Network.

The land surrounding the Proposal site comprises:

- The MPW site, formerly the School of Military Engineering (SME), on the western side of Moorebank Avenue directly adjacent to the MPE site (subject to the MPW Concept Plan Approval), which is owned by the Commonwealth;
- The East Hills Rail Corridor to the south of the MPE site, which is owned and operated by Sydney Trains;
- The Holsworthy Military Reserve, to the south of the East Hills Rail Corridor, which is owned by the Commonwealth; The Boot Land, to the immediate east of the MPE site between the eastern site boundary and the Wattle Grove residential area, which is owned by the Commonwealth.
- The southern Boot Land, to the immediate south of the MPE site between the southern site boundary and the East Hills Rail Corridor, which is owned by the Commonwealth.

Glenfield Waste Services, south-west of the Proposal is proposing to develop a Materials Recycling Facility on land owned by the Glenfield Waste Services Group within the boundary of the current landfill site at Glenfield. The facility is proposed to recycle a maximum of 450,000 tonnes of material per year. The Glenfield Waste Services Proposal is the subject of a DA (SSD\_6249) under Part 4, Division 4.1 of the EP&A Act.

A number of residential suburbs are located in proximity to the Proposal site. The approximate distances of these suburbs to the MPE Stage 2 site and the Moorebank Avenue site are provided in Table 1-5 below.

The closest industrial precinct to the Proposal is at Moorebank, comprising around 200 hectares of industrial development. This area includes (but is not limited to) the Yulong and ABB sites to the south of the M5 Motorway and the Goodman MFive Business Park and Miscellaneous industrial and commercial development to the north of the M5 Motorway. The majority of this development is located to the north of the M5 Motorway between Newbridge Road, the Georges River and Anzac Creek. The Moorebank Industrial Area supports a range of industrial and commercial uses, including freight and logistics, heavy and light manufacturing, offices and business park developments.

There are other areas of industrial development near the Proposal at Warwick Farm to the north, Chipping Norton to the north-east, Prestons to the west and Glenfield and Ingleburn to the south-west.

The local context of the Proposal is shown on Figure 1-3.

**Table 2-1 Distance to residential suburbs from the Proposal site**

Suburb	Distance to MPE Stage 2 site	Distance to Moorebank Avenue site
Wattle Grove	360 m to the north-east	865 m to the north-east
Moorebank	1300 m to the north	1430 m to the north
Casula	820 m to the west	760 m to the west
Glenfield	1830 m to the south-west	1540 m to the south-west

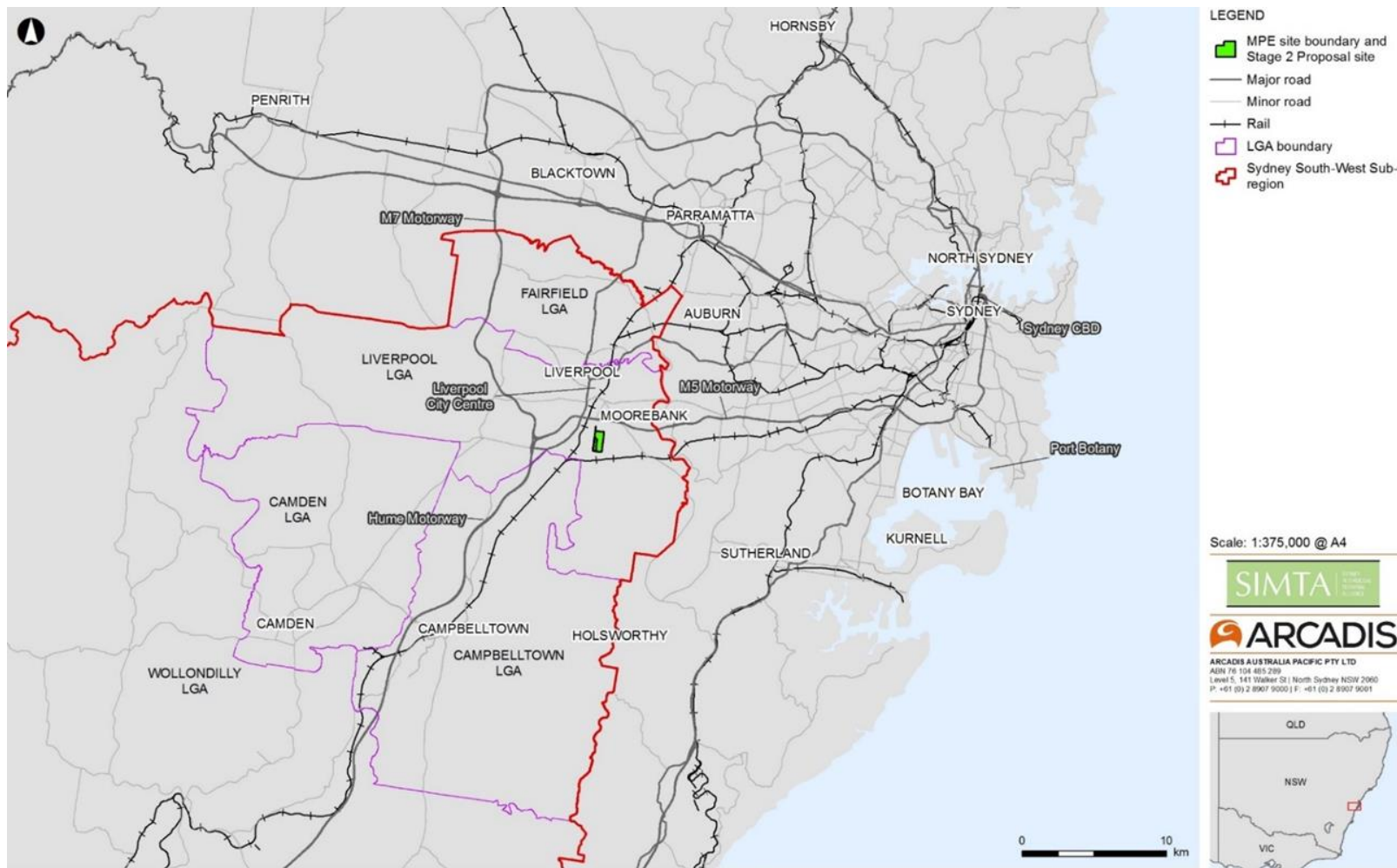


Figure 2-1 Regional context of the Proposal



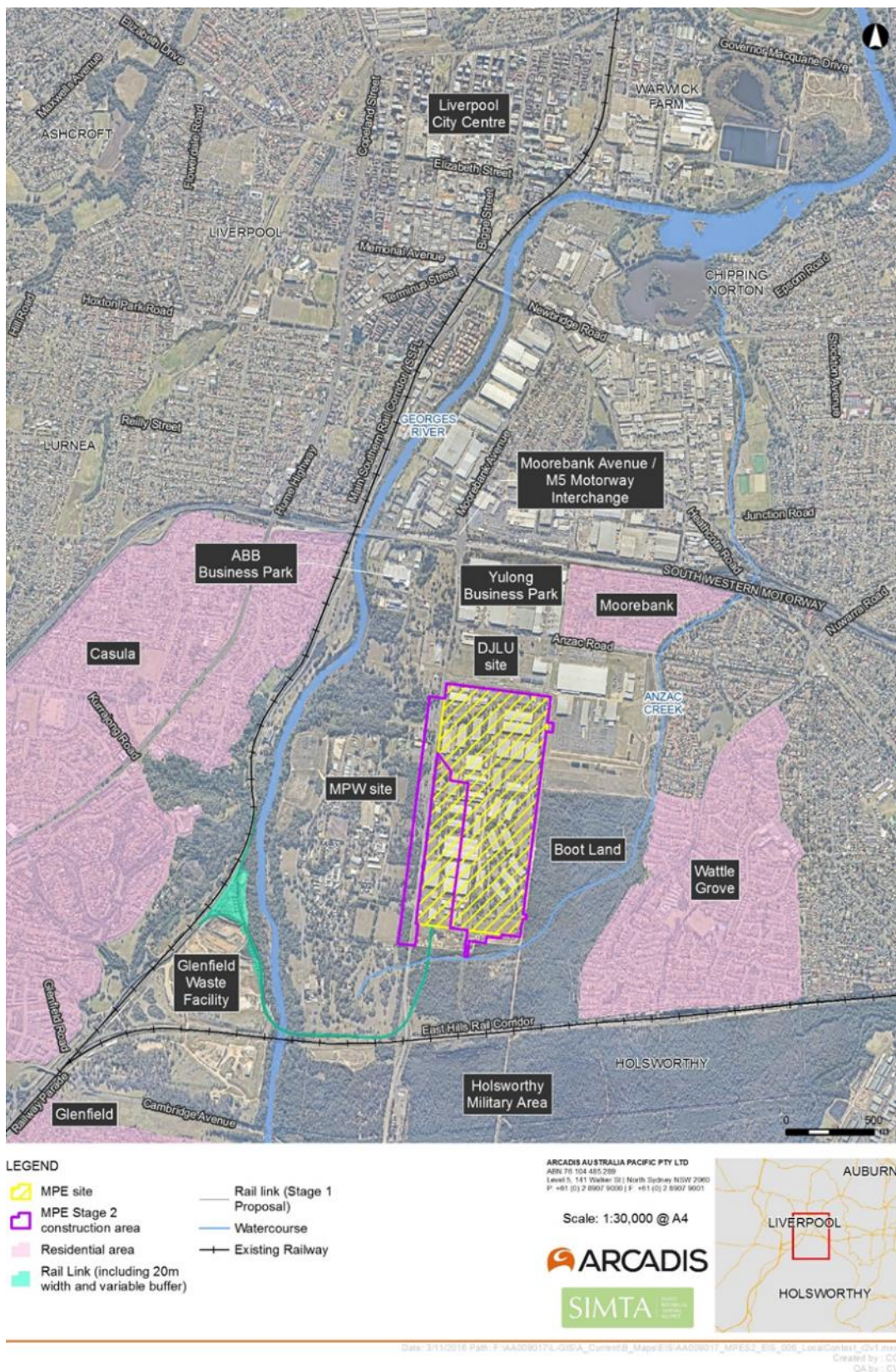


Figure 2-2 Local context of the Proposal



## 2.3 Proposal overview

The Proposal involves the construction and operation of Stage 2 of the MPE Project, comprising warehousing and distribution facilities on the MPE site and upgrades to approximately 1.4 kilometres of Moorebank Avenue between the northern MPE site boundary and 120 metres south of the southern MPE site boundary.

Key components of the Proposal include:

- Warehousing comprising approximately 300,000m<sup>2</sup> GFA, additional ancillary offices and the ancillary freight village
- Establishment of an internal road network, and connection of the Proposal to the surrounding public road network
- Ancillary supporting infrastructure within the Proposal site, including:
  - Stormwater, drainage and flooding infrastructure
  - Utilities relocation and installation
  - Vegetation clearing, remediation, earthworks, signage and landscaping
- Subdivision of the MPE Stage 2 site
- The Moorebank Avenue upgrade would be comprised of the following key components:
  - Modifications to the existing lane configuration, including some widening
  - Earthworks, including construction of embankments and tie-ins to existing Moorebank Avenue road level at the Proposal's southern and northern extents
  - Raking of the existing pavement and installation of new road pavement
  - Establishment of temporary drainage infrastructure, including temporary basins and / or swales
  - Raising the vertical alignment by about two metres from the existing levels, including kerbs, gutters and a sealed shoulder
  - Signalling and intersection works
- Upgrading existing intersections along Moorebank Avenue, including:
  - Moorebank Avenue / MPE Stage 2 access
  - Moorebank Avenue / MPE Stage 1 northern access
  - Moorebank Avenue / MPE Stage 2 central access
  - MPW Northern Access / MPE Stage 2 southern emergency access

The Proposal would interact with the MPE Stage 1 Project (SSD\_6766) via the transfer of containers between the MPE Stage 1 IMT and the Proposal's warehousing and distribution facilities. This transfer of freight would be via a fleet of heavy vehicles capable of being loaded with containers and owned by SIMTA. The fleet of vehicles would be stored and used on the MPE Stage 2 site, but registered and suitable for on-road use. The Proposal is expected to operate 24 hours a day, seven days per week.

An overview of the Proposal is shown in Figure 1-6. To facilitate operation of the Proposal, the following construction activities would be carried out across and surrounding the Proposal site (area on which the Proposal is to be developed):

- Vegetation clearance
- Remediation works
- Demolition of existing buildings and infrastructure on the Proposal site
- Earthworks and levelling of the Proposal site, including within the terminal hardstand
- Drainage and utilities installation
- Establishment of hardstand across the Proposal site, including the terminal hardstand
- Construction of a temporary diversion road to allow for traffic management along the Moorebank Avenue site during construction (including temporary signalised intersections adjacent to the existing intersections) (the Moorebank Avenue Diversion Road)
- Construction of warehouses and distribution facilities, ancillary offices and the ancillary freight village
- Construction works associated with signage, landscaping, stormwater and drainage works.

The Proposal would operate 24 hours a day, 7 days a week.

The footprint and operational layout of the Proposal are shown on Figure 1-6. More information relating to the operations of the Proposal is provided below.

## 2.4 Built form

### 2.4.1 Warehousing

The Proposal would provide up to 300,000m<sup>2</sup> of warehousing across the MPE Stage 2 site, with ancillary offices attached. The Proposal would include eight warehouses, which would be up to 21 metres in height and would range in size from 20,350m<sup>2</sup> to 61,500m<sup>2</sup>. The Proposal would also include some internal fitout of the warehouses, namely the installation of racking and associated services. The Proposal would seek approval for the construction of these warehouses and also the operation of these warehouses by future tenants.

The indicative layout of the warehouses is shown in Figure 1-7.

Each individual warehouse would consist of the following:

- A container storage area
- Office and administration facilities
- Amenities
- Car parking
- Truck loading/unloading docks
- Internal parking for pick-up and delivery vehicles (PUD)
- Specialised sortation and conveyor equipment
- Hardstand areas that provide trailer parking spaces, external PUD parking spaces, vehicle manoeuvring areas and access to the main internal site road

- Signage for business identification purposes, including backlit illuminated signage on each warehouse
- Internal fitout, comprising racking and storage.

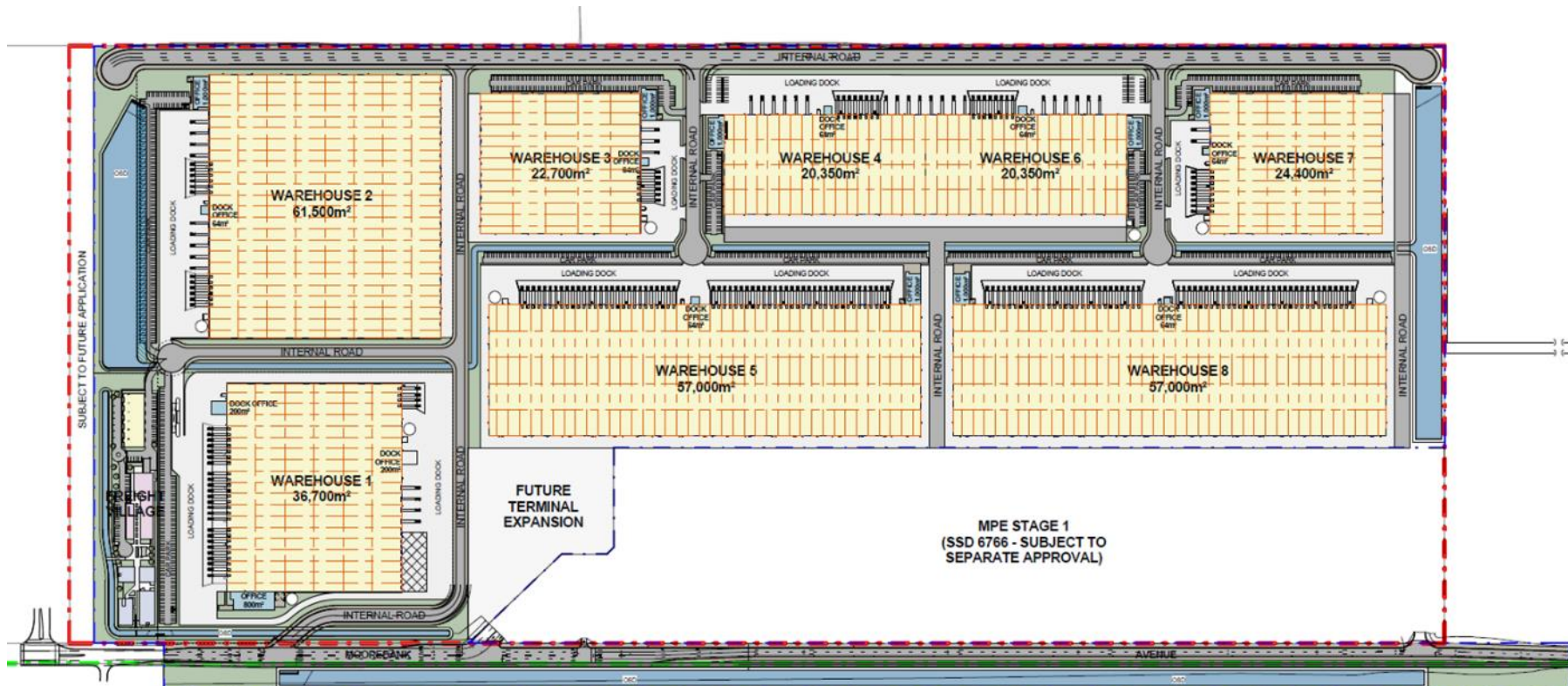


Figure 2-3 Indicative warehousing layout

## 2.4.2 Freight village

A freight village including amenities would be provided on the MPE site as part of the Proposal. The ancillary freight village would be located in the north-west of the Proposal site, directly north of Warehouse 1 and east of Moorebank Avenue. The freight village would include five buildings which would provide for a mixture of retail, commercial and light industrial land uses, with a combined GFA of approximately 8,000m<sup>2</sup>. An overview of buildings within the ancillary freight village is provided in previous Figure 1-7.

The freight village would also include the provision of:

- Food outlets
- Amenities
- Loading dock(s)
- Services area
- Services corridor
- landscaping,
- Car parking (258 spaces), including basement parking.

The indicative layout of the freight village is shown on previous Figure 1-7.

Buildings and structures within the freight village would be up to 15 m in height and of varying size and design, as detailed in Section 15 (visual amenity, landscape and urban design). The Proposal would also include the internal fitout of these buildings, including utilities and services. The Proposal would seek approval for the construction of this freight village and also the operation of these premises by future tenants.

Associated with this built form is a number of ancillary works, which include materials and finishes, signage, lighting, vegetation removal and landscaping, water management works and utilities, which have been discussed throughout this section of the EIS.

## 2.4.3 Vehicle movement and access

The Proposal would include one site access point, with traffic circulating through the site using internal roads, service roads and internal transfer roads. A description of site access and traffic circulation throughout the Proposal site is described below.

MPE Stage 2 site access

Access to and from the Proposal site would be via the existing DSND Northern access, to the north of the MPE Stage 1 Project. Site access at this location would allow for vehicular access to warehouse and distribution facilities to enable the direct delivery and dispatch of goods to the warehouses. The site access point is shown on previous Figure 1-6.

### Traffic circulation within the MPE Stage 2 site

During the interim stages of operation, the traffic circulation throughout the MPE Stage 2 site would be via a combination of the roads described below (i.e. the final configuration) and the use of modified existing roads. Interim vehicle movement and access throughout the MPE Stage 2 site would be included in the relevant environmental management plans for operation of the Proposal, including the Construction Traffic Management Plan and Operational Traffic Management Plan

## Internal roads

The MPE Stage 2 site includes two main internal roads, which provided the main east-west and north-south traffic movements throughout the MPE Stage 2 site. On entering the MPE Stage 2 site, light and heavy vehicles would travel along an east-west oriented internal road (internal road 1). Internal road 1 would connect at its easternmost point to a second north-south oriented internal road (internal road 2).

Internal roads 1 and 2 would connect to three service roads which would provide vehicle access to warehouses, loading docks and car parking.

Internal road 2 would provide for traffic movements along the entire eastern perimeter of the Proposal, and would have a cul-de-sac at both the northern and southern ends to allow vehicles to turn around. The internal roads would be two lanes wide (one lane in each direction) and would be wide enough to accommodate heavy vehicle turning movements, including B-doubles.

## Service roads

Three service roads would connect to the internal roads within the MPE Stage 2 site. The service roads would provide access to loading docks at warehouses for heavy vehicles to park and be packed with materials which have been received and stored within the warehouses. Service roads would also enable access to light vehicle parking for users of the warehouses. Each service road would have a cul-de-sac for vehicles to turn around, which would be able to accommodate turning movements of B-doubles.

Service road 1 would connect to internal road 1 via a T-intersection, and would provide access to Warehouse 1, Warehouse 2 and the ancillary freight village. Two additional service roads would connect to internal road 2 via t-intersections; service road 2 would provide access for warehouses 3, 4 and 5, and service road 3 would provide access to warehouses 6, 7 and 8.

## Transfer roads

There would be three Transfer roads within the MPE Stage 2 site. These roads would provide connections between the warehouses and the MPE Stage 1 IMT. It is intended that the transfer of freight between the Stage 1 IMT and warehouses would be via an internal fleet of vehicles which would remain on the MPE Stage 2 site and would not use the external road network.

Transfer road 1 would travel mostly along the same path as internal road 1 and provide access between the Stage 1 IMT facility and Warehouses 1, 2 and 3. Transfer road 2 would travel through the centre of the MPE Stage 2 site and would provide access between the Stage 1 IMT facility and Warehouses 4, 5, 6 and 8. Transfer road 3 would travel along the southern boundary of the MPE site, and provide access between the Stage 1 IMT facility and Warehouses 7 and 8.

With the exception of transfer road 1, which travels along the same path as internal road 1, the movement of internal fleet vehicles along transfer roads would be separated from light and heavy vehicles entering and exiting the MPE Stage 2 site to maintain efficiency and to provide for a safe internal road network



## 2.4.4 Roadworks – Moorebank Avenue

As part of the Proposal, Moorebank Avenue would be upgraded for about 1.4 kilometres. The Moorebank Avenue upgrade commences from approximately 95 metres south of the northern boundary of the MPE site to approximately 120 metres south of the southern MPE site boundary. The Moorebank Avenue upgrade is located within the existing Moorebank Avenue road corridor and along the eastern boundary of the MPW site (refer to previous Figure 1-6 for extent of works).

The Moorebank Avenue upgrade would be comprised of the following key components:

- Modifications to the existing lane configuration, including some widening
- Signalling and intersection works.
- Raising the vertical alignment by about two metres from the existing levels, including kerbs, gutters and a sealed shoulder

### Lane configuration

The Moorebank Avenue upgrade would provide for the integration of the Proposal with the wider Moorebank Precinct works and to tie-in to Moorebank Avenue at its existing vertical and horizontal alignment near the northern boundary of the MPE site.

The arrangement of lanes along Moorebank Avenue as part of the Proposal would include:

- Four lanes from the northern extent of the Moorebank Avenue upgrade to the MPE Stage 1 central access.
- Two lanes between the MPE Stage 1 central access to approximately 120 metres south of the MPE site.

The lanes would generally be 3.5m wide central travel lanes, with 4.2m wide kerbside travel lanes with a 4.5 metre verge along both the northbound and southbound carriageways.

### Intersection upgrades

The Proposal includes upgrades to four intersections along Moorebank Avenue, including:

- Moorebank Avenue / MPE Stage 2 access
- Moorebank Avenue / MPE Stage 1 northern access
- Moorebank Avenue / MPE Stage 2 central access
- MPW Northern Access / MPE Stage 2 southern emergency access

### Road alignment

The horizontal alignment of Moorebank Avenue is not expected to change significantly as a result of the Proposal, with the upgraded road remaining primarily within the existing Lot 2 of DP1197707.

As part of the Proposal, the vertical alignment of Moorebank Avenue within the operational footprint of the Moorebank Avenue upgrade would be raised by approximately two metres. At the northern and southern extents of this work, the vertical alignment would be graded to tie-in to the remainder of Moorebank Avenue.

## 2.5 Ancillary infrastructure

The Proposal would also include ancillary supporting infrastructure to facilitate the efficient operation of the Proposal, to minimise the environmental impact and enhance the visual amenity of the Proposal site. Ancillary infrastructure to be included on the Proposal site would comprise:

- Landscaping within the MPE site and along Moorebank Avenue
- Water management works, including stormwater infrastructure and on-site detention within the MPE site and along Moorebank Avenue
- The installation of signage throughout the Proposal site for the purposes of way finding and access to/from the warehousing facilities.
- The provision of road signage along Moorebank Avenue within the Proposal site
- Lighting around the warehouse entry and exit points, freight village, ancillary offices and along the internal roads.
- Street lighting along Moorebank Avenue
- Relocation and installation of utilities to connect to nearby public utility networks within the MPE site and along Moorebank Avenue
- Subdivision of the Proposal site for the purpose of segregating the intermodal terminal and warehousing, and also for the tenanting of individual warehouses within the facility.

## 2.6 Operational hours

Movement of freight between the IMT and warehouses within the Proposal site would be undertaken 24 hours per day, seven days a week. The warehouses would generally be operational for 24 hours per day, seven days a week.

## 2.7 Proposal Traffic Generation

The Proposal is expected to generate approximately 564 truck trips (2-way) and 3,993 car trips (2-way) to and from the Proposal site each week day. In the cumulative development scenario, with the addition of traffic from MPE Stage 1 and MPW Stage 2, approximately 2,540 truck trips (2-way) and 6,808 car trips (2-way) are estimated to and from the Proposal each week day.

## 2.8 Impact at Key Road Sections

The highest traffic increase attributable to the Proposal in the peak hour is predicted at the Moorebank Avenue / DJLU Access Road and Moorebank Avenue / MPE Stage 2 Site Access intersections with increases of approximately 10% in 2019 and reducing to approximately 8% by 2029.

The Proposal would increase traffic at Moorebank Avenue / Anzac Road intersection by 7% in 2019 and reduce to 6% by 2029. The increase is expected to reduce due to the growth in background traffic with Proposal traffic remaining constant from year of opening.

It is also predicted to increase traffic at M5 Motorway / Moorebank Avenue intersection by 4% in 2019 and reduce 3.5% by 2029. Increases in traffic due to the Proposal at the M5 Motorway / Hume Highway are less than 0.5%.



To the north, the analysis found that likely traffic increase attributable to the Proposal at Moorebank Avenue / Newbridge Road and Moorebank Avenue / Heathcote Road intersections would be minor (less than 1.0%). To the east, likely traffic increases at the M5 Motorway / Heathcote Road would be marginal (less than 0.7%). Similarly, to the south on Cambridge Avenue, likely traffic increase at two assessed roundabouts would be marginal (less than 0.2%).

It should be noted that the predicted increase in traffic generated by the Proposal which are less than 5% of the observed are within the limits of the variations in day to day traffic volumes. As such, their impacts are considered marginal.

## 3 OPERATIONAL TRAFFIC MANAGEMENT PLAN

### 3.1 Overall principles for traffic management

The overall principles for traffic management during the operational phase of the Proposal are to:

- provide a convenient and appropriate environment for pedestrians
- minimise effects on pedestrian movements and amenity
- manage and control vehicular movements to and from the MPE Stage 2 site
- maintain traffic capacity at intersections and mid-block in the vicinity of the MPE Stage 2 site
- maintain access to other properties adjacent to the MPE Stage 2 site
- restrict vehicle activity to designated truck routes through the area
- maintain safety for workers
- provide appropriate access to the site for operational traffic
- manage and control vehicle activity in the vicinity of the site.

#### 3.1.1 Objectives

The key objectives of the Operational Traffic Management Plan (OTMP) are to:

- Protect the safety of on-site personnel, pedestrians and motorists
- Manage operational activities so that they do not adversely compromise safe traffic flow within and surrounding the site
- Minimise environmental impacts due to operational traffic
- Manage operational traffic so that it does not interrupt traffic on the adjacent road network.

#### 3.1.2 Regulatory requirements

The following regulatory requirements must be addressed within the OTMP that would be developed by the operator for the Proposal:

- MPE Concept Plan Conditions of Approval
- MPE Concept Plan Statement of Commitments
- Conditions of approval for the Proposal, once available
- Any conditions of licenses or permits under the *Environmental Planning and Assessment Act 1979* and Regulations
- *Road Transport (Safety and Traffic Management) Act 1999*
- *Roads Act 1993*
- *Work Health and Safety Act 2011*
- *Work Health and Safety Regulation 2011*.

### 3.1.3 Performance criteria

The performance criteria that the OTMP would be assessed against include:

- No safety incidents;
- Adherence to any relevant permits and/or licence conditions;
- Minimal delays to traffic on the road sections affected by the operations;
- No complaints in relation to on-site operational traffic from neighbouring property owners or residents in the local area;
- Level of access afforded through the use of designated access and egress points;
- Responses to all issues, queries and concerns within an agreed timeframe as detailed within the OEMP; and
- Compliance with all standards, regulations and codes.

### 3.1.4 Implementation and Operation

The OTMP will form part of the suite of environmental management documents developed under the OEMP for the Proposal. The implementation of the OTMP will occur prior to the commencement of operation of the Proposal and will conform to the processes identified within this document and those identified within the OEMP.

## 3.2 Proposal Operational Framework

### 3.2.1 Operations overview

The Proposal involves the operation of Stage 2 of the MPE Project, comprising warehousing and distribution facilities on the MPE site and upgrades to approximately 1.5 kilometres of Moorebank Avenue between the northern MPE site boundary and approximately 120 metres south of the MPE site.

Key components of the Proposal include:

- Warehousing comprising approximately 300,000m<sup>2</sup> GFA and additional ancillary offices
- Establishment of an internal road network, and connection of the Proposal to the surrounding public road network
- The Freight Village
- The Moorebank Avenue upgrade

The Proposal would interact with the MPE Stage 1 Project (SSD\_6766) via the transfer of containers between the MPE Stage 1 IMT and the Proposal's warehousing and distribution facilities. The vehicle movements associated with the transfer of containers between the MPE Stage 1 IMT and the Proposal would be within the Proposal site only, and would not impact on the performance of the surrounding road network. The proposed access arrangement to and from the Proposal site is shown in Figure 3-1.

Movement of freight between the IMT and warehouses within the Proposal site would be undertaken 24 hours per day, seven days a week. The warehouses would generally be operational for 24 hours a day, seven days a week, depending on the tenant.

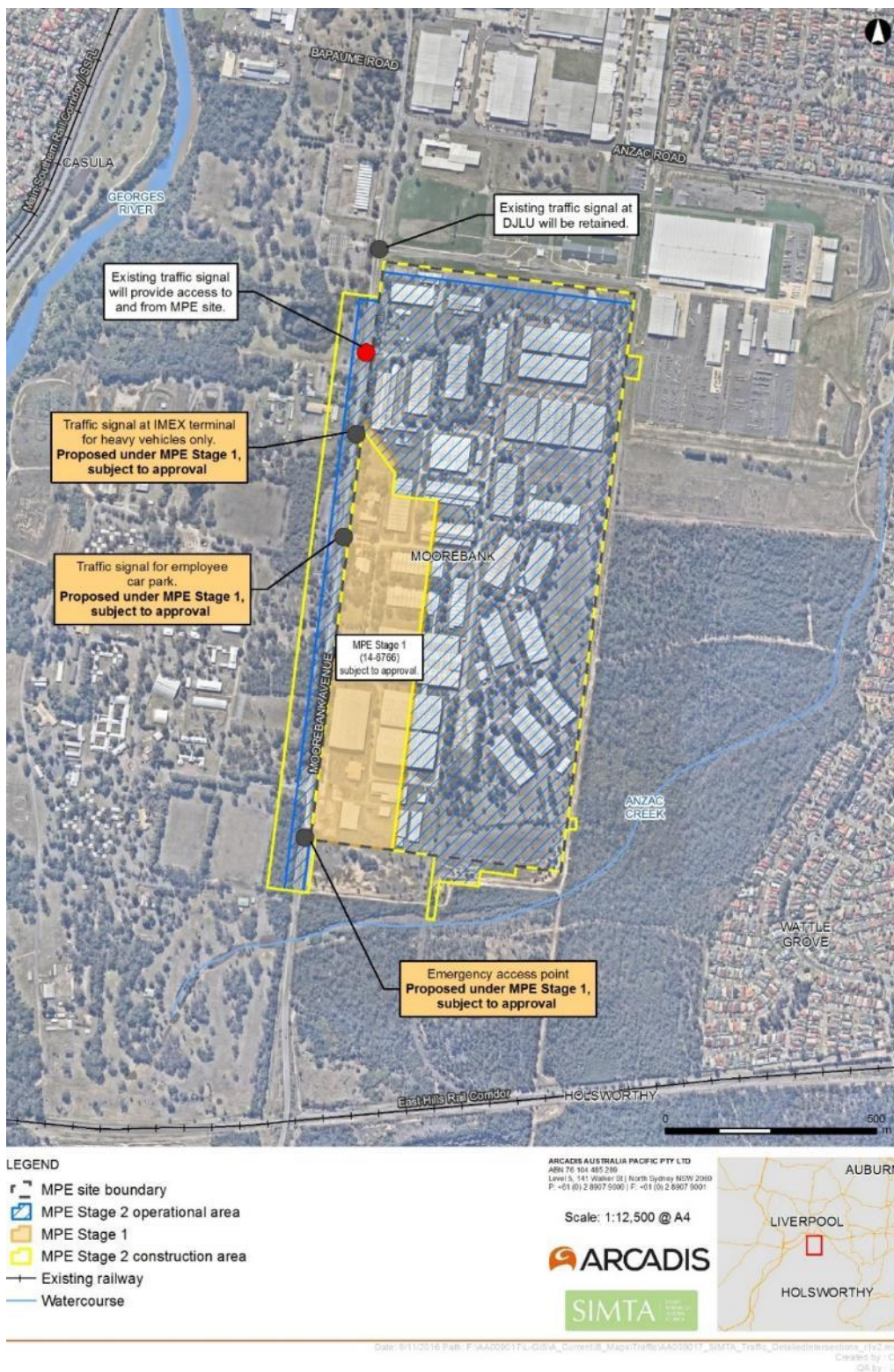


Figure 3-1 Moorebank Avenue Access Strategy for MPE Stage 2 Operation



### 3.2.2 Hours of operation

The anticipated hours of operation for the Proposal are identified in Section 2.5.

### 3.2.3 Proposed site access

The Proposal would include one site access point, with traffic circulating through the site using internal roads, service roads and internal transfer roads. A description of site access and traffic circulation throughout the Proposal site is described below.

#### MPE Stage 2 site access

Access to and from the Proposal site would be via the existing DSNDC northern access, to the north of the MPE Stage 1 Project. Site access at this location would allow for vehicular access to warehouse and distribution facilities to enable the direct delivery and dispatch of goods to the warehouses.

#### Traffic circulation within the MPE Stage 2 site (see Figure 3-2)

During the interim stages of operation, the traffic circulation throughout the MPE Stage 2 site would be via a combination of the roads described below (i.e. the final configuration) and the use of modified existing roads. Interim vehicle movement and access throughout the MPE Stage 2 site would be included in the relevant environmental management plans for operation of the Proposal, including the Construction Traffic Management Plan and Operational Traffic Management Plan.

#### Internal roads

The MPE Stage 2 site includes two main internal roads, which provided the main east-west and north-south traffic movements throughout the MPE Stage 2 site. On entering the MPE Stage 2 site, light and heavy vehicles would travel along an east-west oriented internal road (internal road 1). Internal road 1 would connect at its easternmost point to a second north-south oriented internal road (internal road 2).

Internal roads 1 and 2 would connect to three service roads which would provide vehicle access to warehouses, loading docks and car parking.

Internal road 2 would provide for traffic movements along the entire eastern perimeter of the Proposal, and would have a cul-de-sac at both the northern and southern ends to allow vehicles to turn around. The internal roads would be two lanes wide (one lane in each direction) and would be wide enough to accommodate heavy vehicle turning movements, including B-doubles.

#### Service roads

Three service roads would connect to the internal roads within the MPE Stage 2 site. The service roads would provide access to loading docks at warehouses for heavy vehicles to park and be packed with materials which have been received and stored within the warehouses. Service roads would also enable access to light vehicle parking for users of the warehouses. Each service road would have a cul-de-sac for vehicles to turn around, which would be able to accommodate turning movements of B-doubles.

Service road 1 would connect to internal road 1 via a T-intersection, and would provide access to Warehouse 1, Warehouse 2 and the ancillary freight village. Two additional service roads would connect to internal road 2 via t-intersections; service road 2 would provide access for warehouses 3, 4 and 5, and service road 3 would provide access to warehouses 6, 7 and 8.

## Transfer roads

There would be three Transfer roads within the MPE Stage 2 site. These roads would provide connections between the warehouses and the MPE Stage 1 IMT. It is intended that the transfer of freight between the Stage 1 IMT and warehouses would be via an internal fleet of vehicles which would remain on the MPE Stage 2 site and would not use the external road network.

Transfer road 1 would travel mostly along the same path as internal road 1 and provide access between the Stage 1 IMT facility and Warehouses 1, 2 and 3. Transfer road 2 would travel through the centre of the MPE Stage 2 site and would provide access between the Stage 1 IMT facility and Warehouses 4, 5, 6 and 8. Transfer road 3 would travel along the southern boundary of the MPE site, and provide access between the Stage 1 IMT facility and Warehouses 7 and 8.

With the exception of transfer road 1, which travels along the same path as internal road 1, the movement of internal fleet vehicles along transfer roads would be separated from light and heavy vehicles entering and exiting the MPE Stage 2 site to maintain efficiency and to provide for a safe internal road network.

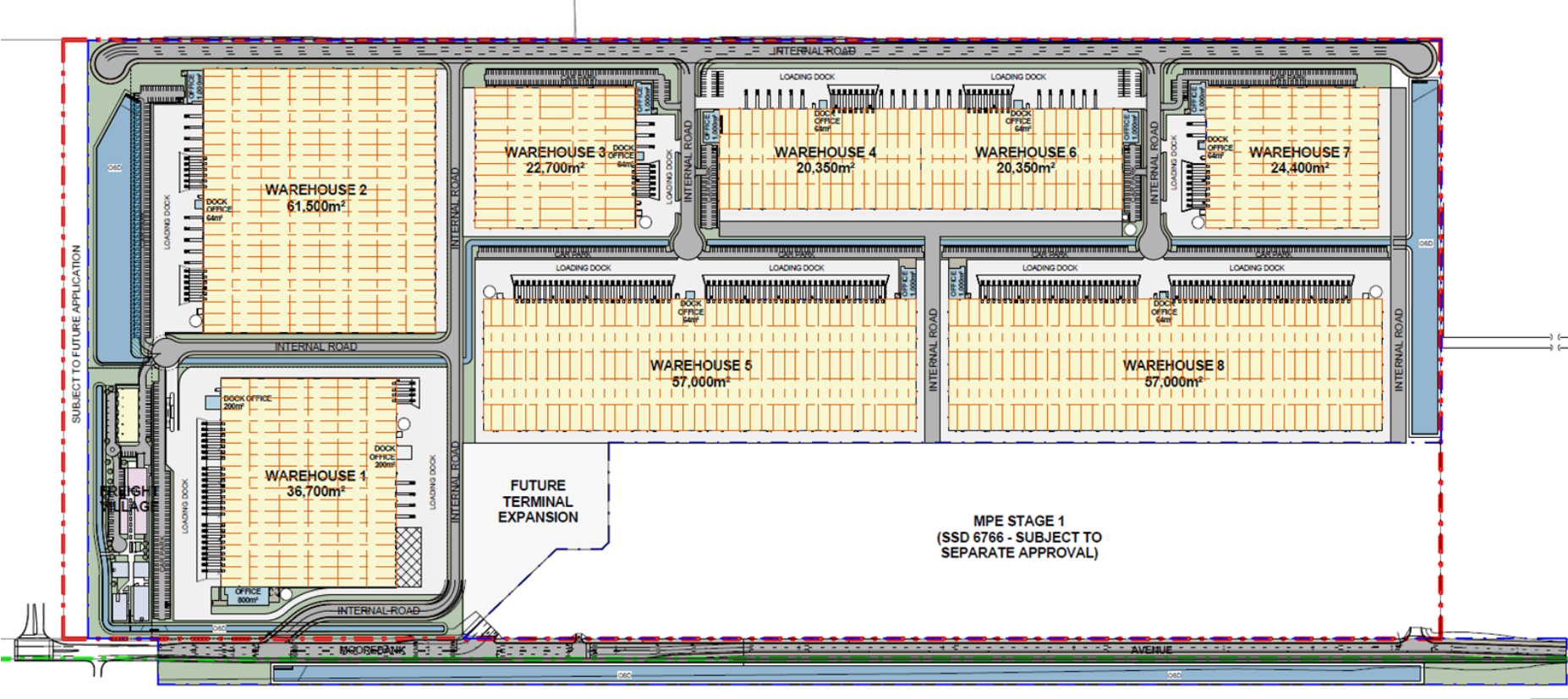


Figure 3-2 Traffic Circulation within MPE Stage 2

### **3.2.4 Public transport accessibility**

In general, the Proposal site can be accessed by bus public transport via a feeder bus service (route no. 901) to the train stations at Liverpool and Holsworthy. The existing service arrangements suggest poor service frequencies for the feeder bus service outside peak times and only one service during peak periods servicing Moorebank Avenue to the south of Anzac Road.

The walking distance to the limited-service bus stops along Moorebank Avenue from the Proposal is within the acceptable walking distance (i.e. 400 metres) for the north-western part of the Proposal site (as shown in Figure 3-3), however, due to the proposed location of the MPE Stage 1 IMT rail connection, direct accessibility to the warehouses from Moorebank Avenue is not possible. To improve bus transport access to the precinct, additional bus stops are proposed in proximity to the Moorebank Avenue / MPE Stage 2 access intersection and on the internal roads in order to ensure a 400m walking distance ("as the crow flies") to all proposed warehouses and offices.

Whilst there would be additional heavy vehicles on Moorebank Avenue, the service frequencies of the buses are considered low and as such the Proposal is not anticipated to have any substantial impacts on bus public transport services.

Overall it is considered that improvements in bus public transport service frequencies and additional stops would be required to ensure adequate accessibility to all proposed warehouses and offices for the Proposal.

The location of these bus stops would be further discussed with TfNSW as part of the detailed design of the Proposal.

### **3.2.5 Cycle access**

Generally, the existing cycling infrastructure in the area is considered adequate i.e. on-road cycle facilities are currently available along Moorebank Avenue. On-street cycling facilities are available on Moorebank Avenue, with sealed and lane-marked shoulders of varying width provided on both sides of the road (approximately 1.5-2.5 metre width).

The Proposal would not result in any adverse impact to cycle accessibility. An off-road shared path (cycle/pedestrian) is proposed on the western side running the full length of the Moorebank Avenue upgrade. It is proposed that off-road shared paths will be provided within the Proposal site along the internal roads. Figure 3-4 shows the proposed connectivity between the Proposal site and the surrounding network.

### **3.2.6 Pedestrian access**

Generally, the existing pedestrian infrastructure in the area is considered adequate i.e. a sealed footpath is provided on one side of Moorebank Avenue (the western side) with pedestrian crossing facilities located at signalised T-intersections along Moorebank Avenue.

With the Moorebank Avenue upgrade, an off-road shared path (cycle/pedestrian) is proposed on the western side running the full length of the Moorebank Avenue upgrade. A direct connection to the surrounding pedestrian paths on Moorebank Avenue from the Proposal site is proposed to be through the signalised site access intersection (i.e. MPE Stage 2 Site Access intersection), as identified in Figure 3-4. The Proposal is considered to have minimal impact on pedestrian links in the area.



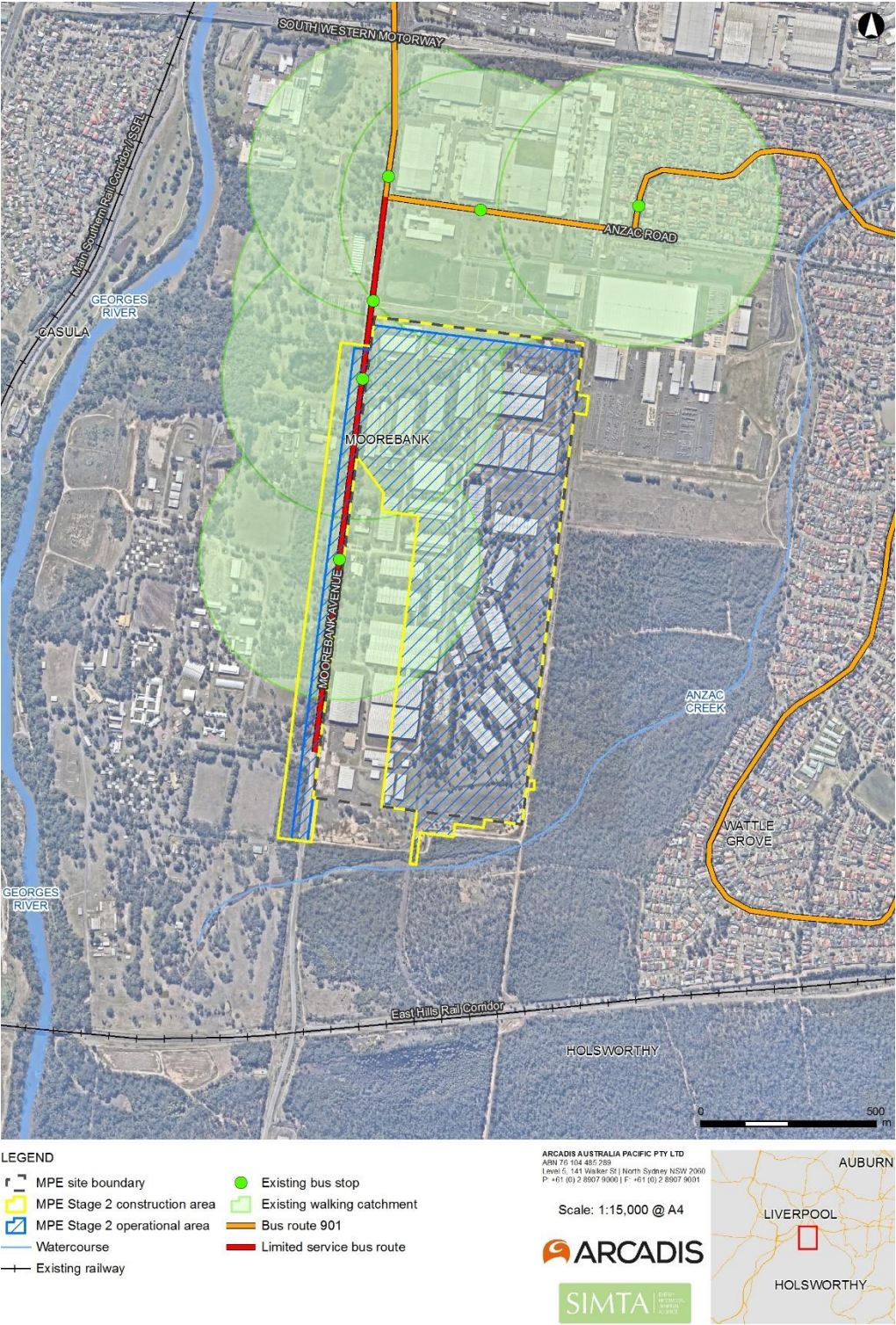


Figure 3-3 Existing Bus Stop Locations

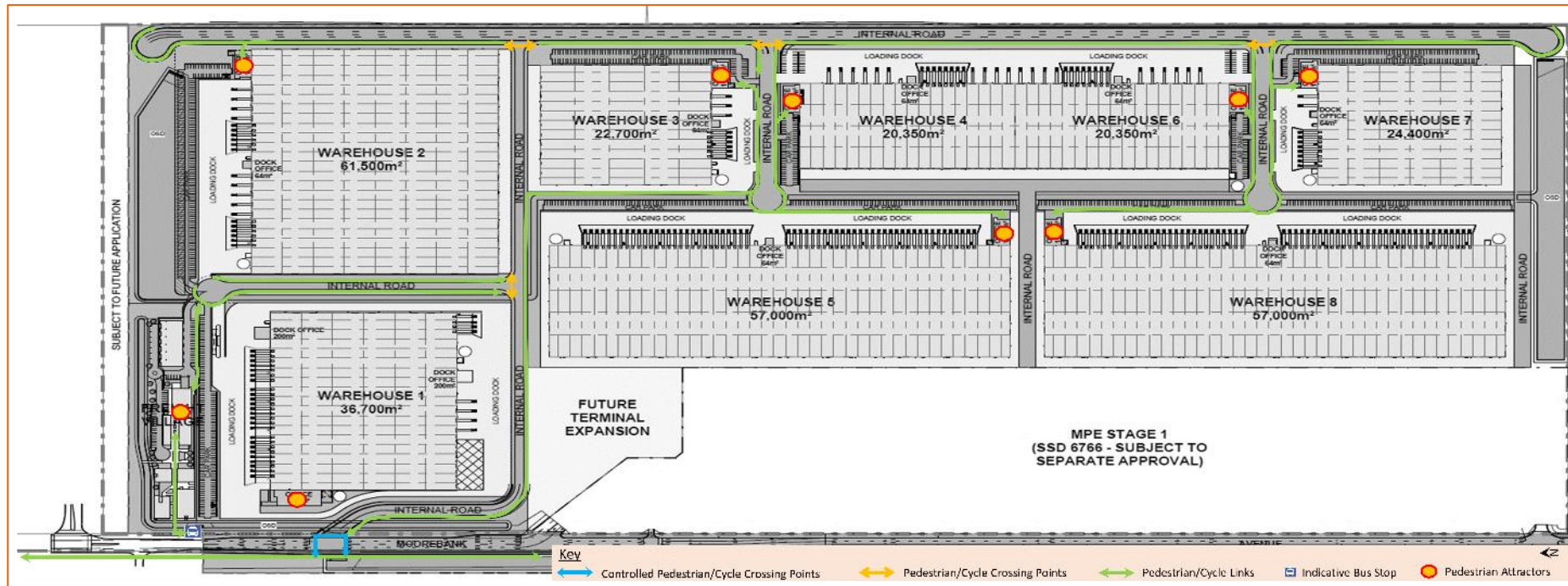


Figure 3-4 Proposed Pedestrian and Cyclist Connectivity



### 3.3 Proposal operational traffic

An assessment of operational traffic generation was undertaken as part of the traffic impact assessment and is documented in Appendix B of the “*Operational Traffic & Transport Impact Assessment*”. A summary of the key findings is outlined below.

- The Proposal is expected to generate approximately 564 truck trips (2-way) and 3,993 car trips (2-way) to and from the Proposal site each week day. In the cumulative development scenario, with the addition of traffic from MPE Stage 1 and MPW Stage 2, approximately 2,540 truck trips (2-way) and 6,808 car trips (2-way) are estimated to and from the Proposal each week day.
- Access to and from the Proposal site would be via the existing DSNDC northern access, to the north of the MPE Stage 1 Project. Site access at this location would allow for vehicular access to warehouse and distribution facilities to enable the direct delivery and dispatch of goods to the warehouses.
- The Proposal has the highest impact on Moorebank Avenue (south of Anzac Road) with traffic volume increases of 23% in 2019 and 19% in 2029. This is followed by Moorebank Avenue (north of Anzac Road) with an increase of 18% in 2019 and 15% in 2029. The analysis suggests increases due to the Proposal on the remaining road sections are expected to be low with increases of below 4% in the opening year and 10-year horizon
- No upgrades are required at the study intersections due to the Proposal (in the opening year 2019 and 2029) with the exception of the Moorebank Avenue / MPE Stage 2 Site Access intersection which provides access to/from the Proposal site.
- Cumulative traffic would likely exceed the current capacity at the M5 Motorway/ Moorebank Avenue intersection and upgrading of the intersection is required by 2019. A staged upgrade of the intersection is recommended.
- Capacity improvements are required at the signalised intersections of Moorebank Avenue/Newbridge Road and Moorebank Avenue / Heathcote Road due to an existing operational network problem, without consideration of the Proposal. These intersections need to be upgraded to cater for the growth in background traffic demand (i.e. not due to the Proposal)
- Capacity improvements are required at the M5 Motorway / Hume Highway and M5 Motorway / Heathcote Road signalised intersections to cater for the growth in background traffic. These intersections need to be upgraded to cater for the growth in background traffic demand (i.e. not due to the Proposal)
- The analysis identified minor impact to roundabouts of Glenfield Road and Canterbury Road with Cambridge Avenue attributable to the Proposal.
- A series committed and anticipated upgrades (Do-Min) are being pursued by Roads and Maritime. These upgrades are needed to cater for the growth in background traffic on the wider road network and is recommended to be implemented as a priority to provide the required additional capacity to meet future demand on the road network.

## **4 DESCRIPTION OF TRAFFIC MANAGEMENT CONTROLS**

### **4.1 Workplace safety training**

#### **4.1.1 Induction safety training**

Site inductions, including site layout and emergency procedures, will be carried out by each tenancy, where necessary, as soon as new staff and visitors arrive on site. All workers, staff and visitors to the site will be made aware of site protocols, traffic management system, and traffic hazards of the operations during site inductions which would be identified within the OEMP for each tenancy.

### **4.2 Liaison with stakeholders**

Prior to the commencement of operation of the Proposal, written notification would be provided to likely and potentially affected nearby sensitive receivers. This would include, but not be limited to local residents, local businesses and relevant authorities. The manner of notification would be confirmed in the final OTMP and would align with the Community and Stakeholder Engagement section of the OEMP.

This POTMP has been developed as the preliminary document for consultation (where appropriate) with the relevant stakeholders and authorities regarding operational traffic management and would be used to develop the OTMP.

## 5 TRAFFIC MANAGEMENT PROCEDURES

### 5.1 Heavy Vehicle Movements

Heavy vehicle movements would be managed through a Vehicle Booking System to regulate and manage truck arrivals to/from the site and to prevent trucks queuing and waiting on Moorebank Avenue. The monitoring and control of truck movements in relation to potential adverse traffic conditions on M5 Motorway and Moorebank Avenue will be managed through the following measures:

- Measures utilising short-range radios, Global Positioning System (GPS) and wireless communications would be recommended to maximise the efficiency of access and circulation of vehicles
- Provision of adequate truck holding capacity on site should congestion or major incidents occur on either M5 Motorway or Moorebank Avenue.

### 5.2 Safety and amenity of road users and public

To maintain the amenity of road users and the general public, the following procedures shall be adopted within the OTMP:

- A driver code of conduct will be developed and implemented prior to the commencement of the site operation to ensure all users of the site are aware of mandatory haulage routes and driving practices both within the site and on the surrounding road network
- All complaints involving vehicle movements and driving practices relating to operations of the site will be responded to within an appropriate time frame as determined within the OEMP
- Safe pedestrian access will be provided to the site and pedestrian thoroughfare will be maintained on Moorebank Avenue for through traffic.

In the unlikely event that partial road closures are required on Moorebank Avenue for access management, stakeholders will be given a minimum of 48 hours advance notice of closure times. Temporary road closures, single-lane access and relocations will be subject to coordination with the appropriate authorities. All traffic-related issues and changes will be presented to stakeholders as part of the consultation process, and will be carried out, wherever possible, in non-peak periods. The following requirements shall also be adopted within the OTMP, to minimise impacts on local amenity during operation:

- Speed limits will be set and observed at the site to minimise noise generation
- Appropriate directional signage and traffic control will ensure vehicles enter and exit the Proposal with minimal disturbance to other road users and advise of any changes in road conditions.

### 5.3 Information signage, distance information and advance warning

All signage including project identification signs, traffic management signs, information signs and regulatory signs shall be established prior to commencement of operation of the Proposal and will be maintained regularly throughout operation.

Signposting covers information, regulatory, warning and guide signs, as defined in national and RMS standards all of which contribute to safety to road users. The types and classes of signs are:

- Information Signs – used for project identification to provide advice and notification to the public
- Regulatory Signs – used to prohibit dangerous traffic movements
- Warning Signs – used to provide advance notice of road hazards ahead
- Guide Signs – used to guide drivers to make driving safer and easier

Safety principles for these signs are:

- Before approval is given for a new sign a demonstrated need should be established
- All signs should convey a clear message to all users under all conditions
- The sign support structure should not create a safety hazard in itself.

All signs will be manufactured and erected in accordance with the following Australian Standards:

- AS1742 – Manual of uniform control traffic devices set (AS1742.1 to 1742.13)
- AS1743 – Road signs - Specifications
- AS1744 – Standard alphabets for road signs.

### 5.4 Incident management

In the event of a site safety incident relating to traffic, the following procedures shall be implemented:

- Undertake an investigation to determine the cause of the incident
- Undertake monitoring of the cause(s) of the incident if possible
- Modify transportation practices as necessary to reduce the duration or level of impact as a result of the incident
- Report the results of the investigation to relevant authorities, if necessary.

## 6 INSPECTIONS AND MONITORING

### 6.1 Inspections

Inspections will be undertaken at the commencement of operations and at an appropriate frequency, determined within the OEMP, to ensure the safe movement of traffic and the protection of persons and property in and around the worksite.

### 6.2 Monitoring

Monitoring of the following traffic-related aspects of the Proposal shall be undertaken to confirm compliance with the OTMP and regulatory requirements:

- A trip generation survey for truck movements will be undertaken 24 months after the commencement of operation of the site. Additional surveys will be undertaken progressively as the MPE site is developed
- Visual monitoring of traffic movements on site will be carried out to ensure the safe movement of traffic and the protection of persons and property through and around the site
- Access roads will be inspected to ensure road conditions support a safe working environment
- Following periods of adverse environmental conditions, access roads will be inspected prior to heavy vehicle traffic use to ensure driver and vehicle safety
- The site will be inspected to ensure signage and traffic barriers are in place, clearly visible, and performing their function in directing traffic and alerting drivers of safety issues. The traffic control inspection shall be used in the early period of operations and at a regular frequency thereafter, as determined by the OEMP. Signs will need to remain appropriate for changing circumstances during the operations phase.

### 6.3 Corrective Actions

The facilities manager will review and analyse the cause of any non-conformance and develop a corrective action to prevent recurrence. Details of the non-conformance, including any immediate corrective actions undertaken are to be recorded, reviewed and accepted by the operator/tenant. It will be the responsibility of a nominated member of the operational staff and/or tenant to immediately initiate corrective actions if required. The non-conformance and corrective action must include details of the action proposed and an appropriate close out date.



## 7 REVIEW AND IMPROVEMENT

An effective OTMP includes processes that allows for continual improvement which will be provided within the OEMP. The OEMP will identify the processes for providing effective feedback on the environmental performance of the operations of the Proposal. Updates or amendments of the OEMP would be implemented where mitigation strategies are not achieving compliance. Continual improvement through planning, implementing, acting and monitoring the environmental performance of the Proposal will occur during the operation phase.

## 8 DOCUMENTATION

The OEMP will include a section to identify the documentation requirements for operational traffic management of the Proposal. The section will identify the responsibilities of the project team for capturing and keeping data and documents.

The operator/tenant is required to develop and implement a system for document control for documents relating to operational traffic management and compliance. This must be documented within the OEMP.

### 8.1 Document Control

The operator/tenant would review, coordinate the preparation and distribution of operational traffic management documents, as appropriate. Operational traffic management documents would be stored at the Proposal site for ready reference.

The operator/tenant is required to develop and implement a document control procedure to control the flow of documents within and between the Principal Representative, stakeholders and subcontractors.

The procedure must also ensure that documentation is:

- Developed, reviewed and approved prior to issue.
- Issued for use.
- Controlled and stored for the legally required timeframe.
- Removed from use when superseded or obsolete.
- Archived.

A register and distribution list must identify the current revision of particular documents or data. Document control would be in accordance with ISO 14001.

## 8.2 Records

The operator/tenant would be responsible for maintaining all operational traffic management documents as current at the point of use.

The operator is required to develop and implement a process for control of all operational traffic records, including:

- All monitoring, inspection and compliance reports/records.
- Correspondence with relevant authorities.
- Induction and training records.
- Reports on traffic incidents, other traffic non-conformances, complaints and follow-up action.
- Community complaints information.
- Minutes of OTMP management system review meetings and evidence of any action taken.
- Review and update of documents in accordance with changes to legislation and activities on site.