

Moorebank Precinct West - Stage 2 Proposal

Response to Submissions - SSD 16_7709



SIMTA

SYDNEY INTERMODAL TERMINAL ALLIANCE

Part 4, Division 4.1, State Significant
Development

SIMTA MOOREBANK PRECINCT WEST


Response to Submissions Report

SSD16-7709

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GLOSSARY AND KEY TERMS

The table below provides a summary of the key acronyms and terms which are included within this report.

Acronym / term	Meaning
Acronyms	
AADT	Average annual daily traffic
AAQ NEPM	National Environment Protection (Ambient Air Quality) Measure
ADT	Average daily traffic
AEP	Annual Exceedance Probability
ARTC	Australian Rail Track Corporation
BAR	Biodiversity Assessment Report
BOS	Biodiversity Offset Strategy
BOP	Biodiversity Offset Package
BPR	Best Practice Review
B99	Building 99
CBD	Central Business District
CCC	Campbelltown City Council
CEMP	Construction Environmental Management Plan
CEP	Community Engagement Plan
CFFMP	Construction Flora and Fauna Management Plan
CHMP	Construction Heritage Management Plan
CLM Act	<i>Contaminated Land Management Act 1997</i>
CLMP	Contaminated Land Management sub-plan
CNVMP	Construction Noise and Vibration Management Plan
CO	Carbon Monoxide
COPC	Chemicals of Potential Concern
CORTN	Calculation of Road Traffic Noise
CTIA	Construction Traffic Impact Assessment
CTMP	Construction Traffic Management Plan
CZMP	Coastal Zone Management Plan
DAs	Development Applications
DALI	Darug Aboriginal Landcare Incorporated
dBA	Decibel
DCAC	Darug Custodian Aboriginal Corporation
DCP	Development Control Plan
DEC	Department of Environment and Conservation

Acronym / term	Meaning
DLO	Darug Land Observations
DoEE	Commonwealth Department of Environment and Energy
ECP	Empty container park
EDD	Explosive Detection Dog
EEC	Endangered Ecological Community
EMS	Environmental Management System
ESCP	Erosion and Sediment Control Plan
ESD	Ecologically Sustainable Development
ENM	Excavated Natural Material
EOW	Explosive Ordnance Waste
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regs	<i>Environmental Planning and Assessment Regulation 2000</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPIs	Environmental Planning Instruments
EPL	Environment Protection Licence
ERA	Environmental Risk Analysis
ERP	Emergency Response Plan
ESCP	Erosion and Sediment Control Plan
FBA	Framework for Biodiversity Assessment
FERP	Flood Emergency Response Plan
FFMP	Flora and Fauna Management Plan
FIAB	Freight Infrastructure Advisory Board
GFA	Gross Floor Area
GHG	Greenhouse gas
GHS	Globally Harmonised System
GLALC	Gandangara Local Aboriginal Land Council
GMA	Greater Metropolitan Area
GP	Gross Pollutants
GWP	Global warming potential
GSC	Greater Sydney Commission
HEC RAS	Hydrologic Engineering Center River Analysis System
HQ	Hazard Quotient
HRA	Health Risk Assessment
ICNG	Interim Construction Noise Guidelines

Acronym / term	Meaning
INP	Industrial Noise Policy
IPCC	Intergovernmental Panel on Climate Change
KPI	key performance indicator
ISEPP	<i>State Environmental Planning Policy (Infrastructure) 2007</i>
LALC	Local Aboriginal Land Council
LCC	Liverpool City Council
LEPs	Local Environmental Plan
LGA	Local Government Area
LLEP	<i>Liverpool Local Environment Plan 2008</i>
LMARI	Liverpool Moorebank Arterial Road Investigations
LNG	Liquefied Natural Gas
LoS	Level of Service
LPT	Liquefied Petroleum Gas
LTEMP	Long-Term Environmental Management Plan
MNES	Matters of National Environmental Significance
MPE	Moorebank Precinct East
MPW	Moorebank Precinct West
Mt	mega-tonnes
MUR	Moorebank Units Relocation
NGA	National Greenhouse Accounts
NGLG	Noise Guide for Local Government
NML	Noise Management Levels
NO ₂	Nitrogen Dioxide
NOA	Naturally occurring asbestos
NOHC	Navin Officer Heritage Consultants
NW Act	<i>Noxious Weed Act 1993</i>
OEH	Office of Environment and Heritage
OEMP	Operational Environment Management Plan
OOH	Out of Hours
OSD	On-site detention basin
OTMP	Operational Traffic Management Plan
OTTIA	Operational Traffic and Transport Impact Assessment
PAC	Planning Assessment Commission
PAD	Potential Archaeological Deposits
PCEMP	Preliminary Construction Environmental Management Plan

Acronym / term	Meaning
PCT	Plant Community Type
PCTMP	Preliminary Construction Traffic Management Plan
PFAS	Perfluoroalkyl and Polyfluoroalkyl
PHA	Preliminary Hazard Assessment
PIRMP	Pollution Incident Response Management Plan
PM	Particulate matter
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
POTMP	Preliminary Operational Traffic Management Plan
PPE	Personal Protective Equipment
PRA	Preliminary Risk Assessment
RAE	Royal Australian Engineers
RAP	Remediation Action Plan
RAPs	Registered Aboriginal Parties
RBLs	Rating Background Levels
REP	Regional Environmental Plan
RFS	Rural Fire Service
RING	Rail Infrastructure Noise Guideline
RNP	Road Noise Policy
RVR	Remediation and Validation Report
SEPP	<i>State Environmental Planning Policy</i>
SEPP 33	<i>State Environmental Planning Policy No 33 – Hazardous and Offensive Development</i>
SEPP 55	<i>State Environmental Planning Policy No 55 – Remediation of Land</i>
SEPP 64	<i>State Environmental Planning Policy No 64 – Advertising and Signage</i>
SF6	Sulfur hexafluoride
SME	School of Military Engineering
SO ₂	Sulfur Dioxide
SSFL	Southern Sydney Freight Line
SSI	State Significant Infrastructure
SWL	Sound Power Level
SWMP	Soil and Water Management Plan
SWSLHD	South Western Sydney Local Health District
TCE	Trichloroethylene
TEC	Threatened Ecological Communities
tCO ₂ -e	Tonnes of carbon dioxide equivalents

Acronym / term	Meaning
TCS Act	<i>Threatened Species Conservation Act 1995</i>
TLALC	Tharawal Local Aboriginal Land Council
TN	Total Nitrogen
TP	Total Phosphorus
TSP	Total Suspended Particulate matter
TSS	Total Suspended Solids
USTs	Underground storage tanks
UXO	Unexploded ordnance
VENM	Virgin Excavated Natural Material
VMS	Variable Message Signs
VPA	Voluntary Planning Agreement
WHO	World Health Organisation
WM Act	<i>Water Management Act 2000</i>
WSUD	Water Sensitive Urban Design
WWI	World War 1
WWII	World War 2
Key terms	
MPW Concept Approval (MPW Concept Approval and Early Works)	MPW Concept and Stage 1 Approval (SSD 5066) granted on 3 June 2016 for the development of the MPW Intermodal terminal facility at Moorebank and the undertaking of the Early Works. Granted under Part 4, Division 4.1 of the <i>Environmental Planning and Assessment Act 1979</i> . This reference also includes associated Conditions of Approval and Revised Environmental Management Measures, which form part of the documentation for the approval.
MPW EPBC Approval	Commonwealth Approval (No. 2011/6086), granted in mid 2016 under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> , for the impact of the MPW Project on listed threatened species and communities and impacts on the environment by a Commonwealth agency.
MPW EPBC EIS	The Environmental Impact Statement prepared to support the application for approval of the MPW Concept and Early Works (Stage 1) under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
MPW Concept EIS	The Environmental Impact Statement prepared to support the application for approval of the MPW Concept and Early Works (Stage 1) under the <i>Environmental Planning and Assessment Act 1979</i> .
MPW Project	The MPW Intermodal Terminal Facility as approved under the MPW Concept Approval (SSD 5066) and the MPW EPBC Approval (2011/6086).

Acronym / term	Meaning
MPW site	The site which is the subject of the MPW Concept Approval, MPW EPBC Proposal and MPW Planning Proposal (comprising Lot 1 DP1197707 and Lots 100, 101 DP1049508 and Lots 2, 3 DP 1197707). The MPW site does not include the rail link as referenced in the MPW Concept Approval or MPE Concept Plan Approval.
Early Works	Works approved under Stage 1 of the MPW Concept Approval (SSD 5066), within the MPW site, including: establishment of construction compounds, building demolition, remediation, heritage impact mitigation works and establishment of the conservation area.
Early Works Approval	Approval for the Early Works (Stage 1) component of the MPW Project under the MPW Concept Approval (SSD 5066) and the MPW EPBC Approval. Largely contained in Schedule 3 of the MPW Concept Approval.
Early Works area	Includes the area of the MPW site subject to the Early works approved under the MPW Concept Approval (SSD 5066).
MPW Planning Proposal	Planning Proposal (PP_2012_LPOOL_004_00) to rezone the MPW site from 'SP2- Defence to 'IN1- Light Industrial' and 'E3- Management', as part of an amendment to the Liverpool Local Environmental Plan 2008 (as amended) gazetted on 24 June 2016.
MPW Concept RtS	<i>MIC Response to Submissions Report</i> (PB, May 2015)
MPW Concept SRtS	<i>MIC Supplementary Response to Submissions Report</i> (PB, August 2015)
MPW Concept Modification Report	Following the MPW Concept Approval, a modification application was prepared on behalf of SIMTA, which sought approval to modify the MPW Concept Project and Stage 1 (Early Works) (SSD_5066) (the Modification Proposal). The Modification Proposal was prepared pursuant to Section 96(2) of the EP&A Act and was publicly exhibited, in accordance with clause 83 of the <i>Environmental Planning and Assessment Regulations 2000</i> , between 7 July 2016 and 22 August 2016.
Modification Proposal	The modification sought to MPW Concept Project and Stage 1 (Early Works) (SSD_5066) in the MPW Concept Modification Report (Arcadis, 2016).
MPW Concept Modification RtS	The Response to Submissions report prepared following the public exhibition of the Modification Proposal and which also describes and assesses amendments to the Modification Proposal (the Amended Modification Proposal).
Amended Modification Proposal	The MPW Concept Modification RtS also describes and assesses amendments to the Modification Proposal (the Amended Modification Proposal). The Amended Modification Proposal sought to modify only the MPW Concept Approval, not Stage 1 of the MPW Project (Early Works).
Proposal	MPW Stage 2 Proposal (the subject of the EIS and this RtS), namely Stage 2 of the MPW Concept Approval (SSD 5066) including construction and operation of an IMT facility, warehouses, a Rail link connection and Moorebank Avenue/Anzac Road intersection works.

Acronym / term	Meaning
MPW Stage 2 RtS	This report, which was prepared in response to the submissions received regarding the MPW Stage 2 Proposal.
Amended Proposal	The MPW Stage 2 Proposal has been amended (the Amended Proposal) from that provided within the EIS to respond to submissions provided by the government agencies and the community and also as part of design progression of the Proposal. The Amended Proposal is detailed and assessed in this RtS.
Proposal site	The subject of the EIS, the part of the MPW site which includes all areas to be disturbed by the MPW Stage 2 Proposal (including the operational area and construction area).
IMT facility	The Intermodal terminal facility on the Proposal site, including truck processing, holding and loading areas, rail loading and container storage areas, nine rail sidings, loco shifter and an administration facility and workshop.
internal road	Main internal road through the Proposal site which generally travels along the western perimeter of the site. Provides access between Moorebank Avenue and the IMT facility and warehouses.
Rail link connection	Rail connection located within the Proposal site which connects to the Rail link included in the MPE Stage 1 Proposal (SSD 14-6766).
Proposal operational rail line	The section of the Rail link connection and Rail link between the SSFL and the Rail link connection (included in the MPE Stage 1 Proposal) to be utilised for the operation of the Proposal. and the Rail link connection
construction area	Extent of construction works, namely areas to be disturbed during the construction of the Proposal. This area has been updated in this RtS.
amended construction area	Extent of construction works, namely areas to be disturbed during the construction of the Amended Proposal, as detailed in this RtS.
operational area	Extent of operational activities for the operation of the Proposal.
amended operational area	Extent of operational activities for the operation of the Amended Proposal, as detailed in this RtS.
conservation area	Vegetated area to the west of the Georges River, to be retired as a bio-banking site for use as a biodiversity offset, as part of the MPW Project.
Moorebank Precinct	Refers to the whole Moorebank intermodal precinct, i.e. the MPE site and the MPW site.
MPE Project	The Intermodal terminal facility on the MPE site as approved by the MPE Concept Plan Approval (MP 10_0913) and including the MPE Stage 1 Proposal (14-6766).
MPE site	The site which is the subject of the MPE Concept Plan Approval, and includes the site which is the subject of the MPE Stage 1 Approval.
MPE Stage 1 Proposal	MPE Stage 1 Proposal (14-6766) for the development of the Intermodal terminal facility at Moorebank. This reference also includes associated conditions of approval and environmental management measures which form part of the documentation for the approval.

Acronym / term	Meaning
Rail link	Part of the MPE Stage 1 Proposal (14-6766), connecting the MPE site to the SSFL. The Rail link (as discussed above) is to be utilised for the operation of the Proposal.
Revised Environmental Management Measures (REMMs)	The environmental management measures for the MPW Concept Approval as presented within the <i>MPW Supplementary Response to Submissions</i> (SRTS) (PB, 2015a) and approved under the MPW Concept Approval.

EXECUTIVE SUMMARY

Overview

SIMTA are seeking approval for the construction and operation of the Moorebank Precinct West (MPW) Stage 2 Proposal (the Proposal), which will be the second stage of development under the MPW Concept Approval (SSD 5066).

The Proposal involves the construction and operation of an intermodal (IMT) facility (that enables interstate and intrastate freight distribution and port shuttle movements), warehousing and a Rail link connection, comprising the following key components:

- IMT Facility, including:
 - Infrastructure to support a container freight throughput volume of 500,000 TEUs per annum
 - Installation of nine rail sidings and associated locomotive shifter
 - Capacity to receive trains up to 1800 m in length
 - Truck processing, holding and loading areas
 - Container storage area serviced by manual handling equipment
 - Administration facility, engineer's workshop, fuel storage and associated car parking.
- Rail link connection including:
 - Construction of the Rail link connection, which links the sidings within the IMT facility to the Rail link (which would be constructed as part of the MPE Project (SSD 14-6766))
 - The operation of the Rail link connection and the Rail link (from the Rail link connection to the South Sydney Freight Line (SSFL))
- Warehousing area – construction of approximately 215,000 m² gross floor area (GFA) of warehousing, plus ancillary offices, with associated warehouse access roads and a freight village
- Upgraded intersection on Moorebank Avenue and Anzac Road, which would provide site access and egress and construction of an internal road
- Ancillary works – including vegetation clearing, earth works (including the importation of 1,600,000 m³ fill), utilities installation/connection, signage and landscaping.

The Environmental Impact Statement (EIS) for the Proposal was publicly exhibited between 26 October 2016 and 25 November 2016.

This Response to Submissions report (RtS) has been prepared in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulations), to address comments raised by both government agencies and the community during the public exhibition of the EIS. This RtS provides further information and justification for the Proposal in order to respond to and satisfy the submissions received (refer to Sections 4 and 5 of this RtS).

This RtS also includes amendments to the exhibited Proposal, now known as the Amended Proposal. These amendments have been undertaken to address submissions received, reflect design development, provide additional clarity, and also to minimise the overall environmental impact of the Proposal where possible (refer to Sections 6 and 7 of this RtS).

MPW Project benefits

The MPW Project, which comprises the Amended Proposal, includes infrastructure which is critical to the on-going distribution of freight port shuttle operations, interstate, intrastate and throughout the Sydney Metropolitan Area. The MPW Project (and the Amended Proposal) also contributes considerably to a change in mode share (from road to rail) which would result in positive benefits for the Sydney region.

Projected growth in trade volumes will lead to an increase in freight movements interstate, intrastate and across the Sydney Greater Metropolitan Area. This will pose substantial challenges for the supply chain, which is currently dominated by road transport of freight. To meet these challenges and to allow for increased use of rail, it is necessary to invest in new intermodal terminal capacity, to develop dedicated freight rail lines, to widen the orbital motorway network and ideally to complete the missing linkages in the current orbital motorway network, and to improve the rail interface at Port Botany.

The MPW Project, including the Amended Proposal, would deliver the following significant benefits:

- Reduction in the potential increase in regional freight movements along the M5 Motorway between Port Botany and Moorebank Avenue, thereby easing the Port Botany bottleneck enabling the Port to cope with future growth and provide largescale freight capacity
- Transfer of road haulage between NSW ports and Western Sydney to rail freight for redistribution thereby helping to reduce traffic congestion and providing improved efficiency for the Sydney road network
- Reductions in articulated truck volumes through the Sydney Central Business District (CBD) and inner city suburbs on the M4 Motorway and the M5 Motorway east of the Moorebank Avenue interchange
- Reductions in heavy vehicle movements between NSW ports and Moorebank, thereby relieving the regional Sydney road network of articulated vehicular traffic
- Enhanced articulated truck flows, particularly on the M7, Hume Highway and Mamre Road south of the M4 Motorway as well as the M5 Motorway between Moorebank Avenue interchange and the M7 Motorway
- Reductions in vehicle operating costs for heavy vehicles on the regional road network
- Reductions in vehicle emissions, and subsequently greenhouse gas emissions, resulting from a change in mode share from road to rail.

Consultation on the Environmental Impact Statement

The EIS was placed on public exhibition between 26 October 2016 and 25 November 2016 in accordance with Section 89F(1)(a) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). During the preparation of the EIS and public exhibition period, consultation activities were undertaken to engage key stakeholders and the community on information in the EIS and provide guidance on the submissions process. This consultation was undertaken through a range of mediums including emails, phone conversations, face-to-face meetings and letter submissions. Submissions on the Proposal were received by the NSW Department of Planning and the Environment (DP&E) during the exhibition period.

Purpose of this report

This RtS documents and responds to the issues raised in community and stakeholder submissions received during the public exhibition of the EIS. This RtS also details changes made to the exhibited Proposal and provides additional clarity where relevant, i.e. the Amended Proposal. The RtS provides a description of the Amended Proposal and includes the further environmental assessment undertaken to assess the potential environmental impacts or changed environmental impacts associated with the amendments to the Proposal to serve as an addendum to the technical specialist reporting provided within the EIS.

Overview of submissions

Submissions were received from a total of seven government agencies, comprising the following:

- Environment Protection Authority (EPA)
- Office of Environment and Heritage (OEH)
- Transport for NSW (TfNSW)
- Department of Primary Industries (DPI)
- NSW Health
- Liverpool City Council (LCC)
- Campbelltown City Council (CCC).

A total of seven submissions were received from special interest groups, including immediately surrounding land owners comprising the following:

- Action for Public Transport
- Glenfield Farm
- Glenfield Waste
- Liverpool Action Group
- Moorebank Heritage Group
- Ryde – Hunter’s Hill Flora & Fauna Preservation Society
- East Liverpool Progress Association.

In addition to this, DP&E received a total of 148 submissions from community members and landowners, all of which were in opposition to the Proposal.

Of the 148 submissions 76% were from residents in the Liverpool Local Government Area (LGA) with 12% of submissions having not provided a location. The remaining 12% of submissions were from residents within the Campbelltown, Fairfield, Sydney, Inner West, Burnside and Newcastle LGA’s.

It should be noted, as demonstrated within Sections 3 and 5 of this RtS, that a large number of community submissions received were not directly relevant to the scope of the Proposal, but rather were submitted in relation to the overall MPW Project in general, which was the subject of previous approvals (i.e. MPW Concept Approval (SSD 5066)). These submissions are included in the documented responses.

Key Issues

The key aspects and issues that have been raised for the Proposal, by the community and government stakeholders, include:

- Traffic and transport (115 submissions)

- Congestion/Capacity: Concerns regarding congestion on the road network associated with the traffic movements generated by the Proposal during both the construction and operation phases
- General traffic impact: Concerns related to the increasing number of heavy vehicles on the road networks during both the construction and operational phases and the subsequent traffic impact to the areas directly surrounding the Proposal site.
- Air Quality (60 submissions)
 - Air quality/pollution: Concerns surrounding diesel pollution from an increase in heavy industry and trucks in the area from the day to day operation and construction of the terminal
 - Methodology: Concerns that impact assessment have not considered nearby schools and that air quality monitoring should be undertaken in the areas closest to the Proposal site.
- Noise impacts (56 submissions)
 - General noise emissions: All noise created during both construction and operational phases as a result of heavy vehicles and machinery
 - Operational noise: The noise generated from operational activities such as wheel squeal from trains, train shunting, and heavy machinery/engine sounds and alarms and buzzers, from the Proposal.
- Community (38 submissions)
 - Impacts to community and lifestyle: Concerns that the Proposal would have a tangible negative impact on the community, the families and the lifestyles of the current residents and that the area itself would suffer from a change in character
 - Consultation: Concerns were raised regarding the consultation undertaken, such as residents not feeling included in the decision-making process and important information not being provided in languages other than English.

Other Issues

- Human health (36 submissions)
- Flora and fauna (35 submissions)
- Economics (29 submissions)
- Planning process (24 submissions).

Figure 0-1 displays the number of submissions received by aspect graphically.

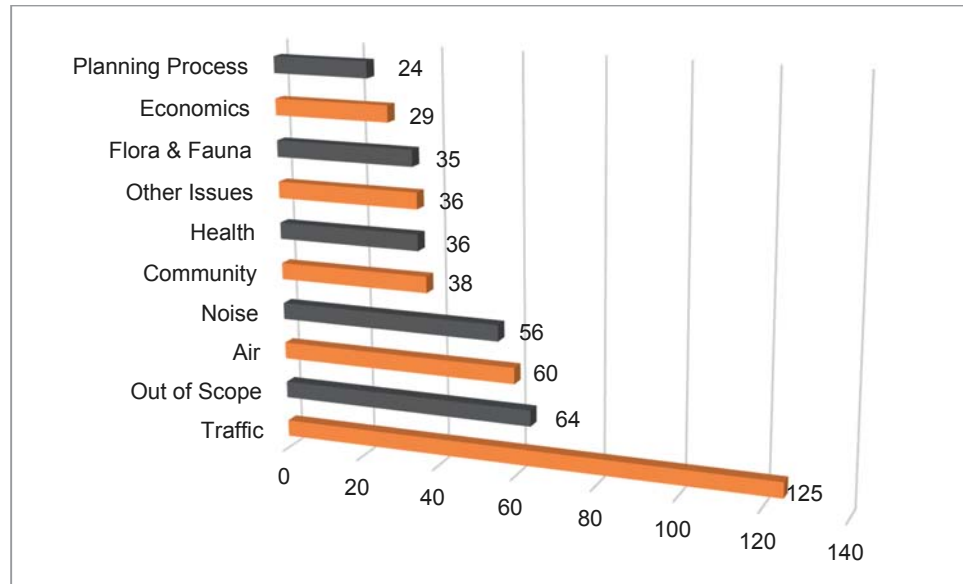


Figure 0-1 Number of submission by aspect

Sections 4 and 5 of this RtS present the issues raised in the submissions and the corresponding responses.

Changes to the Proposal undertaken post exhibition

. Amendments to the Proposal have been made to address submissions received, reflect design development, provide additional clarity, and also to minimise the overall environmental impact of the Proposal where possible.

The amendments include:

- Alignment of the operational hours for warehouses to the IMT facility and Port freight operations to enable freight movements outside of peak traffic times.
- Drainage works:
 - Inclusion of the OSD (Basin 10) and relocation of another OSD (Basin 3) along the eastern boundary of the operational area, adjacent to the western verge of Moorebank Avenue
 - Re-sizing of OSD basins along the western boundary of the operational area
 - Reduction to the widths of selected OSD outlet channels
 - Provision of an additional covered drain within the Endeavour Energy easement
- Identification of container wash-down facilities and de-gassing areas within the IMT facility
- Illuminated backlit signage within the warehousing area
- Inclusion of an upgraded layout for the Moorebank Avenue/Anzac Road intersection
- Adjustments to warehouse layouts.

Additionally, approval for subdivision in the Proposal is no longer sought as subdivision would be undertaken as part of future stages of the MPW Project.

Further details and assessment of the Amended Proposal are provided in Section 6 and Section 7 of this RtS, respectively.

Further investigations

Since exhibition of the EIS, additional investigations have been undertaken to assess the potential environmental impacts or changed environmental impacts associated with the amendments to the Proposal.

Detailed environmental assessments have been undertaken for the following potential key issues:

- Traffic and transport
- Noise and vibration
- Air quality
- Human health
- Biodiversity
- Stormwater and flooding
- Geology, soils and contamination
- Hazards and risks
- Visual amenity
- Indigenous heritage
- Non-Indigenous heritage
- Greenhouse gas.

Technical specialist assessments of the above key environmental issues and other environmental issues have been undertaken in consideration of the issues relevant to the Amended Proposal and those raised within the SEARs for the Proposal.

Overall, the assessment identifies that the amendments to the Proposal would, subject to the implementation of updated mitigation measures (refer to Section 8 of this RtS), result in no substantial environmental impacts in addition to those identified within the EIS.

Details regarding these additional investigations are provided in Section 7 of this RtS.

Consultation on the Submissions report

Consultation with government agencies and key stakeholders has continued subsequent to the exhibition of the EIS and during the preparation of this RtS. The purpose of this consultation has been to discuss the Amended Proposal and submissions received, and gain a greater understanding of any perceived key issues, with a view to resolving these where possible.

Additionally, the DP&E has been regularly consulted about various elements of the Proposal since early 2016. DP&E have been consulted in the form of meetings, telephone conversations, correspondence (emails and letters) and also the submission of Proposal related documentation.

DP&E, along with other agencies and stakeholders, have provided a number of comments regarding the content of the EIS and RtS, the design of the Proposal and Amended Proposal, and engagement with stakeholders. These comments have been considered and this RtS has been updated accordingly.

SIMTA is committed to continuing to consult with stakeholders, including the community throughout the planning of the Proposal and future stages of development. Feedback can be provided to SIMTA at any time via:

- The SIMTA Project website (www.simta.com.au)

- The email feedback system (consulting@elton.com.au)
- The free-call information line (1800 986 465) which is available between 8:30am and 5:00pm weekdays.

Next steps

The DP&E will, on behalf of the NSW Minister for Planning, review the EIS and this RtS. Once the DP&E has completed its assessment, a draft assessment report will be prepared for the Secretary of the DP&E, which may include recommended conditions of approval.

The assessment report will then be provided to the Planning Assessment Commission (PAC) for consideration. The PAC would determine the Proposal, with any conditions considered appropriate.

The PAC's determination, including any conditions of approval and the Secretary's report, will be published on the DP&E's website immediately after determination, together with a copy of this RtS.

1 INTRODUCTION

SIMTA are seeking approval for the construction and operation of the Moorebank Precinct West (MPW) Stage 2 Proposal (the Proposal), which will be the second stage of development under the MPW Concept Approval (SSD 5066).

An Environmental Impact Statement (EIS) was prepared for the Proposal seeking approval under Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). In particular, the EIS was prepared to address, and be consistent with, the following:

- The Secretary's Environmental Assessment Requirements (SEARs) (SSD 16-7709) for the Proposal, which were issued on 14 July 2016
- The relevant requirements of the MPW Concept Approval (SSD 5066) granted by the Planning Assessment Commission (PAC) on 3 June 2016
- The relevant requirements of the approval under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) (No. 2011/6086).

The EIS was publicly exhibited, in accordance with clause 83 of the EP&A Regulations, between 26 October 2016 and 25 November 2016. During this exhibition period submissions were invited from all stakeholders including members of the community and government stakeholders. A total of 148 public submissions have been received from the community, including landowners and occupants and other members of the public. A total of six submissions have been received from specialist interest groups and five submissions from government stakeholders.

The submissions received from the EIS public exhibition form the subject of this report, known as a Response to Submissions (RtS), and are discussed and addressed within.

1.1 Purpose of this report

The purpose of this RtS is to respond to submissions raised by stakeholders during the exhibition of the EIS. This RtS has been prepared to satisfy the provisions of Section 89G of the EP&A Act and Clause 85A of the EP&A Regulations. Each of the submissions received has been collated, analysed and addressed (as relevant).

This RtS also includes amendments to the exhibited Proposal, now known as the Amended Proposal. These amendments have been undertaken to address submissions received and also to minimise the overall environmental impact of the Proposal. The RtS provides a description of the amendments and includes the further environmental assessment undertaken to assess the potential environmental impacts or changed environmental impacts associated with the amendments to the Proposal to serve as an addendum to the technical specialist reporting provided within the EIS.

1.2 Site context

The Proposal site is generally bounded by the Georges River to the west, Moorebank Avenue to the east, the East Hills Railway Line to the south and the M5 Motorway to the north, as shown in Figure 1-1. It is located on Moorebank Avenue, Moorebank and forms Lot 1 in Deposited Plan (DP) 1197707¹ and Lot 100 DP 1049508. The Proposal site is located predominately within Commonwealth Land.

¹ Previously legally described as "Lot 3001, DP 1125930" in the MPW Concept Approval (SSD 5066), however has since been subdivided.

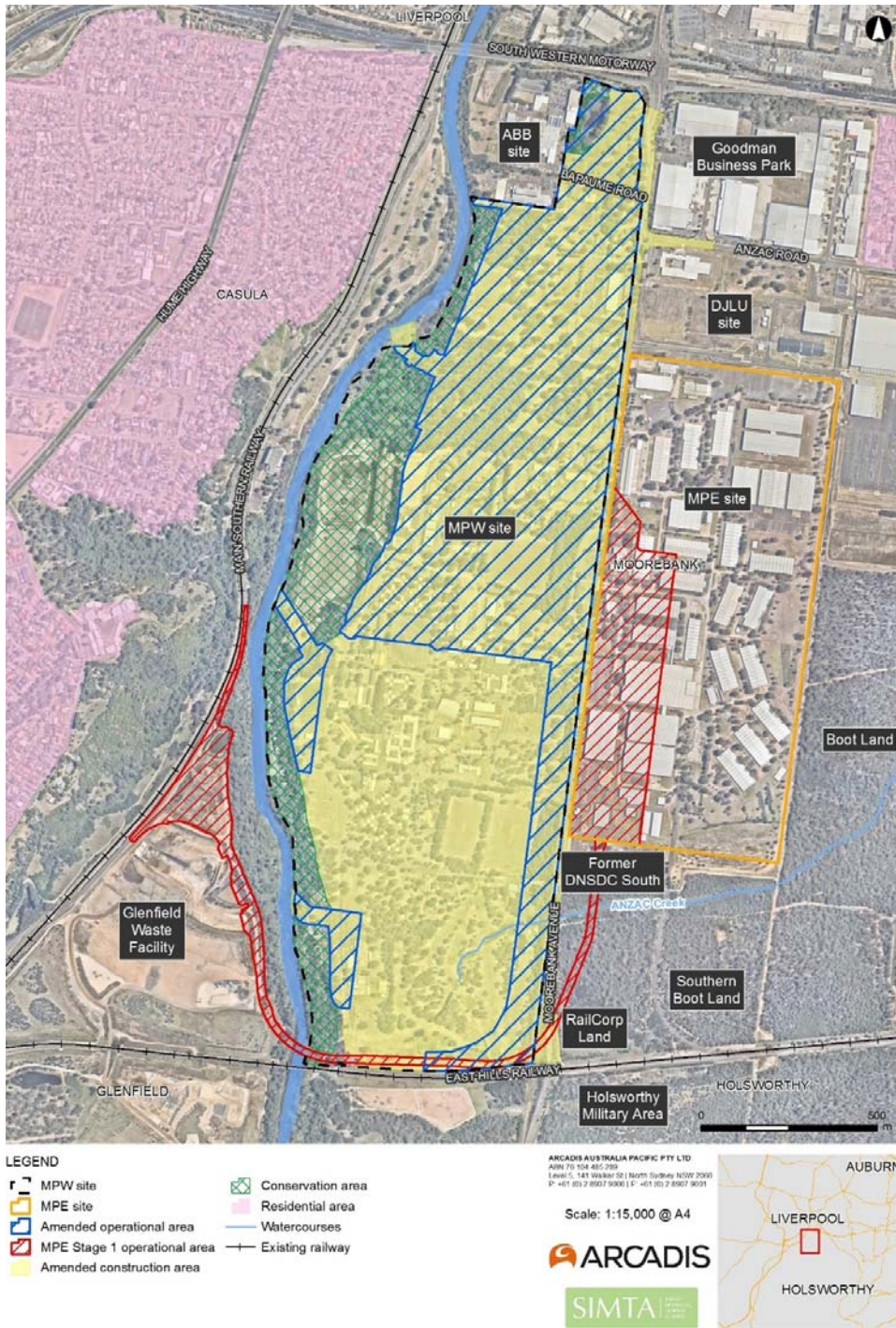


Figure 1-1: Site location

The Proposal would also require works to upgrade the intersection of the MPW site with Moorebank Avenue and would therefore be undertaken on the following parcels of land:

- Moorebank Avenue, owned by the Commonwealth Government, south of Anzac Road Lot 2, DP 1197707 (formerly part of Lot 3001, DP 1125930)
- Moorebank Avenue, owned by Roads and Maritime Services, north of Anzac Road
- A portion of Bapaume Road, a public road that is the responsibility of Liverpool City Council
- Lot 101 DP 1049508, which is located north of Bapaume Road and west of Moorebank Avenue
- A portion of Anzac Road, owned by Liverpool City Council, to the east of Moorebank Avenue
- A portion of Lot 3/DP 1197707, owned by the Commonwealth Government (DJLU site).

The key existing features of the Proposal site are:

- Relatively flat topography, with the western edge flowing down towards the Georges River, which forms the western boundary to the MPW site
- A number of linked ponds in the south-west corner of the Proposal site, within the existing golf course, that link to Anzac Creek, which is an ephemeral tributary of the Georges River
- An existing stormwater system comprising pits, pipes and open channels
- Direct frontage to Moorebank Avenue, which is a publicly used private road, south of Anzac Road and a publicly owned and used road north of Anzac Road
- Vacant, low-rise buildings (including warehouses, administrative offices, operative buildings and residential buildings), access roads, open areas and landscaped fields for the former School of Military Engineering (SME) and the Royal Australian Engineers (RAE) Golf Course and Club.
- Native and exotic vegetation is scattered across the Proposal site
- The riparian area of the Georges River lies to the west of the Proposal site and contains a substantial corridor of native and introduced vegetation. The riparian vegetation corridor provides a wildlife corridor and a buffer for the protection of soil stability, water quality and aquatic habitats. This area has been defined as a conservation area as part of the MPW Concept Approval
- A strip of land (up to approximately 250 metres wide) along the western edge of the MPW site lies below the 1% annual exceedance probability (AEP) flood level.

Approval for the Early Works phase was granted as Stage 1 of the MPW Project within the MPW Concept Approval (refer to Section 1.4). As the Early Works phase includes the demolition of existing buildings, removal of existing hardstand, remediation works, archaeological salvage of Indigenous and non-Indigenous heritage sites and some vegetation removal, the existing environment of the Proposal site will alter as a result.

A number of residential suburbs are located in proximity to the Proposal site, including:

- Wattle Grove, located approximately 1,000 m from the Proposal site and 1,000 m from the Rail link connection to the east. The Rail link, which will be used during operation of the Proposal is 1,260 m to the west of Wattle Grove at its closest point
- Moorebank, located approximately 630 m from the Proposal site and more than 1,400 m from the Rail link connection to the north. The Rail link is 2,500 m to the south of Moorebank at its closest point
- Casula, located approximately 330 m from the Proposal site and 1,200 m from the Rail link connection to the west. The Rail link is approximately 290 m to the east of Casula at the closest point
- Glenfield, located approximately 820 metres from the Proposal site and 1,100 metres from the Rail link connection to the south-west. The Rail link is approximately 750 m to the east of Glenfield at its closest point.

1.3 Proposal Overview

The Proposal, as detailed and assessed in the EIS, involves the construction and operation of an Intermodal (IMT) facility (that enables interstate and intrastate freight distribution and port shuttle movements), warehousing and a Rail link connection, comprising the following key components:

- Intermodal Terminal Facility, including:
 - Infrastructure to support a container freight throughput volume of 500,000 TEUs per annum
 - Installation of nine rail sidings and associated locomotive shifter
 - Capacity to receive trains up to 1800 m in length
 - Truck processing, holding and loading areas
 - Container storage area serviced by manual handling equipment
 - Administration facility, engineer's workshop and associated car parking.
- Rail link connection including:
 - Construction of the Rail link connection, which links the sidings within the IMT facility to the Rail link (which would be constructed as part of the MPE Project (SSD 14-6766))
 - The operation of the Rail link connection and the Rail link (from the Rail link connection to the SSFL)
- Warehousing area – construction of approximately 215,000 m² gross floor area (GFA) of warehousing, plus ancillary offices, with associated warehouse access roads
- Freight village – construction and operation of approximately 800 m² of retail premises, with access from the internal road
- Upgraded intersection on Moorebank Avenue and Anzac Road, which would provide site access and egress and construction of an internal road
- Ancillary works – including vegetation clearing, earth works (including the importation of 1,600,000 m³ fill), utilities installation/connection, signage and landscaping.

The IMT facility would operate 24 hrs a day, seven days a week. The warehousing would operate 24 hours a day, seven days a week². The footprint and operational layout of the Proposal is shown on Figure 1-2.

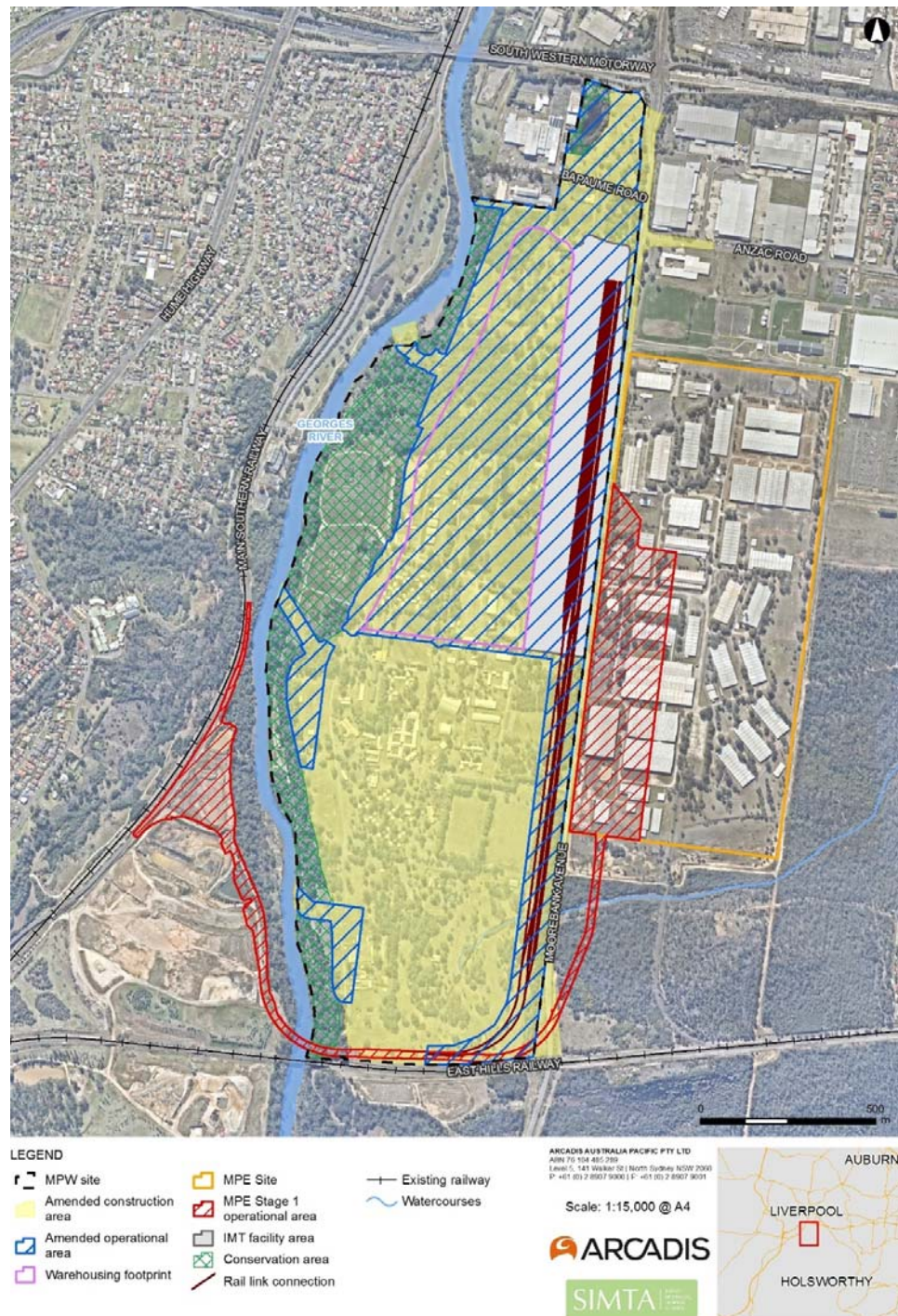


Figure 1-2: Proposal overview

² This has been amended from 18 hours a day, five to seven days a week provided within the EIS. Refer to Section 6 of this RtS for further discussion.

1.3.1 Overview of amendments to the Proposal

A summary of the amendments to the Proposal as originally exhibited is as follows:

- Alignment of the operational hours for warehouses to the IMT facility and Port freight operations to enable freight movements outside of peak traffic times
- Drainage works:
 - Inclusion of the OSD (Basin 10) and relocation of another OSD (Basin 3) along the eastern boundary of the operational area, adjacent to the western verge of Moorebank Avenue
 - Re-sizing of OSD basins along the western boundary of the operational area
 - Reduction to the widths of selected OSD outlet channels
 - Provision of an additional covered drain within the Endeavour Energy easement
- Identification of container wash-down facilities and de-gassing area within the IMT facility
- Illuminated backlit signage within the warehousing area
- Inclusion of an upgraded layout for the Moorebank Avenue/Anzac Road intersection
- Adjustments to warehouse layouts.

Refer to Section 6 of this RtS for additional details.

1.4 Statutory Approval Process

On the 3 June 2016 Concept Approval was granted, under Part 4, Section 4.1 of the EP&A Act for the MPW Project (SSD 5066) which includes the following:

- **Concept Proposal:** *the Concept involves the use of the site as an intermodal facility, including a rail link to the Southern Sydney Freight Line, warehouse and distribution facilities, and associated works.*
- **Early Works (Stage 1):** *involves: the demolition of buildings, including services termination and diversion; rehabilitation of the excavation/ earthmoving training area; remediation of contaminated land; removal of underground storage tanks; heritage impact remediation works; and the establishment of construction facilities and access, including site security.”*

It was generally envisaged, with the MPW Concept EIS and associated documentation, that any further development under the Concept Approval would be undertaken under Part 4, Division 4.1 of the EP&A Act, although this has not been stipulated within the MPW Concept Approval.

Of particular importance to the Proposal is Schedule 1, clause 19 of the *State Environmental Planning Policy (State and Regional and Development) 2011* (State and Regional Development SEPP), which states that ‘rail and transport related facilities’ that have a capital investment value of more than \$30 million for; (a) heavy railway lines associated with mining, extractive industries or other industry, (b) railway freight terminals, sidings and inter-modal facilities are considered State Significant Development (SSD) and would require assessment under Part 4, Division 4.1 of the EP&A Act.

Further, Schedule 1, clause 12 states that warehouses or distribution centres with a capital investment value of more than \$50 million are considered SSD under the State and Regional Development SEPP. Notwithstanding this, this clause notes that warehouses or distribution centres which are related to ‘rail and transport related facilities’ are not included within the clause, and therefore this capital investment

value does not apply. In summary, warehousing related to rail and transport related facilities, such as an intermodal terminal, are considered SSD based on a capital investment value of \$30 million.

The Proposal includes the construction and operation of an intermodal terminal and associated warehousing which is included within the definition of 'rail and transport related facilities' and has a capital investment value above \$30 million. Therefore, in accordance with the State and Regional Development SEPP, the Proposal is to be assessed as SSD and approval is sought under Part 4, Division 4.1 of the EP&A Act.

1.5 MPW Concept Approval (Mod 1)

Following the MPW Concept Approval, a modification application was prepared on behalf of SIMTA, which sought approval to modify the MPW Concept Project and Stage 1 (Early Works) (SSD_5066) (the Modification Proposal). The Modification Proposal was prepared pursuant to Section 96(2) of the EP&A Act and was publicly exhibited, in accordance with clause 83 of the *Environmental Planning and Assessment Regulations 2000*, between 7 July 2016 and 22 August 2016.

During the public exhibition period for the Modification Proposal a number of submissions were received from government agencies and the community and a Response to Submission (RtS) report was prepared to address and respond to the submissions received.

The MPW Concept Modification RtS also describes and assesses amendments to the Modification Proposal (the Amended Modification Proposal) to address comments received during the public exhibition period and to reflect design development of the MPW Project. The Amended Modification Proposal seeks to modify only the MPW Concept Approval, not Stage 1 of the MPW Project (i.e. Early Works). The amendments include the following components:

- Importation of clean general fill – importation of 1,600,000m³ of clean general fill for the purposes of site formation
- Altered construction footprint – impact on additional parcels of land for the purposes of construction of the MPW Project
- Interaction between MPW and MPE sites – transfer of operational vehicles between the MPW and MPE sites for the purposes of container handling between the IMT's and warehouses on each site
- Intermodal terminal facility (interstate, intrastate and port shuttle rail freight) – re-classification of the freight that can be handled through the existing approved interstate terminal to include intrastate and port shuttle rail freight movements.
- Changes to approved function and re-arrangement of existing approved uses – land function adjustments associated with freight village, truck parking and OSDs
- Maximum building heights – increase of building heights (identified in the MPW Project) associated with the importation of fill
- Staging of future applications – alteration to future staging of the MPW Project for the purposes of addressing market demand
- Subdivision – subdivision of the MPW site to facilitate for long-term leases for proposed development.

The MPW Concept Modification RtS was on exhibition until 24 February 2017.

1.6 Structure of this Report

The structure of this RtS comprises the following sections:

- Executive summary: provides a brief overview of the RtS including the identification of key issues, Proposal Amendments and associated further environmental assessments
- Section 1 – Introduction: provides an introduction to the Proposal and amendments to the Proposal, the site context, the statutory approval process and the structure of the RtS
- Section 2 – Exhibition and consultation: provides a description of the consultation which has been undertaken as part of the MPW Project and the Proposal to date
- Section 3 – Overview of Submissions: provides an analysis of the submissions received during the exhibition of the EIS and identifies the key issues raised
- Section 4 – Response to Government Agency Submissions: provides a catalogue of responses received from Government Agencies and responses prepared by technical specialists
- Section 5 – Response to Community Submissions: provides a summary of the community responses received and responses to each of these prepared by technical specialists
- Section 6 – Amended Proposal: provides a description of the amendments to the Proposal design including any alterations to the built form, construction methodology and operational procedures presented within the EIS
- Section 7 – Further assessment: provides an environmental assessment of the amendments to the Proposal with reference to technical specialist addendums
- Section 8 – Compilation of mitigation measures: provides an updated list of mitigation measures to include any changes as a result of submissions received
- Section 9 – Conclusion: provides a summary and conclusion to the RtS.

The following Appendices are included in this RtS:

- Appendix A Community Response Reference Table
- Appendix B Architecturals and Landscape design
 - Amended Proposal:
 - Architectural Drawings
 - Landscape Design Statement and Plans
- Appendix C Traffic and Transport
 - Response to Submissions:
 - Operational sensitivity analysis (M5 Motorway/Moorebank Avenue intersection)
 - Amended Proposal:
 - Operational Traffic and Transport Impact Assessment
 - Construction Traffic Impact Assessment and construction sensitivity analysis
- Appendix D Noise and Vibration
 - Response to Submissions:
 - Noise and Vibration Supplementary Response Material
 - Amended Proposal:

- Noise and Vibration Addendum
- Appendix E Air Quality
 - Response to Submissions and Amended Proposal:
 - Air Quality Addendum and Supplementary Response Material
- Appendix F Human Health
 - Amended Proposal:
 - Human Health Addendum
- Appendix G Biodiversity
 - Amended Proposal:
 - Amended Biodiversity Assessment Report
- Appendix H Stormwater and Flooding
 - Amended Proposal:
 - Stormwater and Flooding Addendum
 - Revised Stormwater and Drainage Design Drawings
- Appendix I Visual
 - Amended Proposal:
 - Visual Impact Addendum
- Appendix J Heritage
 - Amended Proposal:
 - Indigenous and Non-Indigenous Heritage Addendum.
- Appendix K Best Practice
 - Response to Submissions:
 - Noise and Air Quality Best Practice Report
- Appendix L Stockpile Management Principles
 - Response to Submissions:
 - Stockpile Management Protocol.
- Appendix M Environmental Work Method Statement and Out of Hours Protocol.
- Appendix N DCP compliance table
- Appendix O Consolidated project description
- Appendix P Consolidated cumulative construction program

2 EXHIBITION AND CONSULTATION

The EIS was placed on exhibition between 26 October 2016 and 25 November 2016 in accordance with Section 89F(1)(a) of the EP&A Act. Hard copies of the EIS were available for public review and comment at the following locations for the duration of the exhibition period:

- Liverpool City Council: Administration Building and Customer Service Centre, 33 Moore Street, Liverpool
- Campbelltown City Council: Customer Service Centre, Corner Queen Street and Broughton Street, Campbelltown
- Glenquarie Library: 12 Brooks Street, Macquarie Fields
- Office of Environment and Heritage, Level 6, 10 Valentine Avenue, Parramatta
- DPI Water: Level 11, 10 Valentine Avenue, Parramatta
- Nature Conservation Council: Level 2, 5 Wilson Street, Newtown
- Department of Planning and Environment: Level 14, 338 Pitt Street, Sydney.

The EIS (and associated reporting) was available to the public in electronic format on the DP&E website during this time.

2.1 EIS Consultation

MIC undertook consultation with government agencies, key stakeholders and the community throughout the preparation of the MPW Concept EIS. SIMTA has continued this consultation throughout the development of the MPW Project and the Proposal. The consultation undertaken previously and more recently has been a key consideration for the design, construction and operation the Proposal.

Consultation was furthered and undertaken with key stakeholders and agencies as part of the preparation of the EIS for the Proposal in accordance with the SEARs. SIMTA consulted with statutory agencies and stakeholders throughout the preparation of this EIS including:

- Local, State or Commonwealth government authorities, including the:
 - Commonwealth Department of Environment and Energy
 - Department of Planning and Environment
 - Environment Protection Authority
 - Office of Environment and Heritage
 - Transport for NSW
 - Department of Primary Industries (Fisheries and Office of Water)
 - NSW Rural Fire Service
 - NSW Health
 - NSW Ports
 - Liverpool City Council
 - Campbelltown City Council
- Service and infrastructure providers:
 - Roads and Maritime Services
 - Australian Rail Track Corporation

- Sydney Trains
- Sydney Water Corporation
- Jemena
- Endeavour Energy
- Telstra
- AGL Upstream Investments Pty Ltd
- Specialist interest groups, including Local Aboriginal Land Councils
- The public, including community groups and adjoining and affected landowners.

This consultation was undertaken through a range of mediums including emails, phone conversations, face-to-face meetings and letter submissions.

Feedback provided from stakeholders and the community was taken into consideration during the development of the design post MPW Concept Approval) and the approach for the impact assessment documented in the EIS.

2.2 Post Public Exhibition Consultation

Consultation with government agencies and key stakeholders has continued subsequent to the exhibition of the EIS. The purpose of this consultation has been to discuss the Proposal and submissions received, and gain a greater understanding of any key issues, with a view to resolving these where possible. A summary of this consultation is provided in Table 2-1.

Additionally, the DP&E has been regularly consulted about various elements of the Proposal since early 2016. DP&E have been consulted in the form of meetings, telephone conversations, correspondence (emails and letters) and also the submission of Proposal related documentation. DP&E has provided a number of comments regarding the content of the EIS and RtS, the design of the Proposal and amendments to the Proposal, and engagement with stakeholders. These comments have been considered and this RtS has been updated accordingly.

Table 2-1: Post public exhibition consultation

Stakeholder	Consultation undertaken
ABB Australia Pty Limited	<p>A meeting with ABB stakeholders was undertaken on 7 March 2017 to discuss key aspects of the Proposal that have the potential to impact on the ABB site and the ABB workforce. Key concerns raised by ABB during the meeting included:</p> <p>Stormwater and Drainage: ABB expressed concern that there would be an increase in overland flows through the ABB site during storm events as a result of the Proposal, potentially exacerbating existing contamination concerns within the site. It was agreed that the ABB site would be surveyed and a solution to diverting surface flows would be included within the design (refer to Section 6 and 7 of this RtS).</p> <p>Traffic and Access: ABB outlined concerns over the safety of ABB workforce pedestrians and traffic movements on Bapaume Road during both construction and operation of the Proposal. It was agreed that details of ABB truck movements be provided to allow for a swept path analysis to maintain or improve current access provisions. It was also agreed that further consultation with ABB stakeholders would be undertaken during detailed design.</p>

Stakeholder	Consultation undertaken
	<p>Noise and Dust: ABB indicated that noise amenity issues to ABB workforce were of priority concern, and further comment would be provided once information provided in stakeholder letters was considered.</p> <p><u>Submission Letter</u></p> <p>A submission letter was received via the DP&E Website by ABB on 24 February 2017 in response to exhibition of the following documentation:</p> <ul style="list-style-type: none"> • MPW Concept Approval Modification Response to Submissions (SSD 5506 – MOD1) • MPE Concept Approval Modification 2 (MP10_0193) • MPE Stage 2 EIS (SSD 7628) <p>It is noted that a number of the concerns raised in the submission letter mirror those raised in the stakeholder meeting, and although not specifically submitted for the Proposal, hold some relevance. A summary of these issues, and how they have been addressed in the design of the Amended Proposal include:</p> <ul style="list-style-type: none"> • <i>Concerns that the Proposal would alter surface flow regimes across the ABB site during construction and operation, potentially exacerbating contamination issues.</i> <p>As outlined in Section 6 and Appendix H of this RtS, additional survey was undertaken in the northern area of the Proposal site (adjacent to the ABB site) to gain a more accurate understanding of existing drainage and flow regimes in this area. The revised stormwater management design for the Proposal involved an adjustment of the existing DRAINS modelling, resulting in changes to sub-catchment boundaries, increased imperviousness and reduced flow travel times to proposed flows in this area. As a result, the revised drainage system would convey flows from the northern portion of the site to Basin 5 and Georges River via an additional covered drain within the exiting Endeavour Energy easement. This revised design would drastically reduce the amount of surface flows entering the ABB site under Proposal conditions, while the net flow retention of the Amiens wetland would be maintained (refer to Section 6 and Appendix H of this RtS).</p> <ul style="list-style-type: none"> • <i>Concern that proposed changes to the ABB site access would create impediments to ABB vehicle movements (particularly heavy vehicles).</i> <p>As outlined in Section 4.2.5 of the EIS, ABB site vehicles during Proposal operation would be directed as follows:</p> <ul style="list-style-type: none"> – Inbound traffic to the ABB site would be directed to the new Moorebank Avenue/Anzac Road intersection (main MPW site entrance) – Northbound traffic out of the ABB site would use Bapaume Road or the new Moorebank Avenue/Anzac Road intersection (main MPW site entrance) – Southbound traffic out of the ABB site would use the new Moorebank Avenue/Anzac Road intersection (main MPW site entrance). <p>As stated in the EIS (refer to Section 4.2.5), the upgrade Moorebank Avenue / Anzac Road intersection would have the capacity to accommodate A-Double vehicles. Revised architectural drawings and swept path geometry for this intersection is provided at Appendix H of this RtS.</p> <ul style="list-style-type: none"> • <i>Noise and dust impacts to ABB workforce as a result of the importation and placement of fill.</i>

Stakeholder	Consultation undertaken
	<p>A Noise and Vibration Impact Assessment (NVIA) and Air Quality Impact Assessment (AQIA) were prepared and presented within the EIS (refer to Sections 8 and 9, and Appendices N and O of the EIS respectively).</p> <p>Regarding noise, the ABB site was identified as an industrial receiver. Predicted noise and vibration impacts were modelled against relevant criteria for construction and operation of the Proposal at this location. The results of the assessment show all Proposal activities comply with relevant noise and vibration criteria with respect to the ABB site.</p> <p>Regarding Air Quality, a number of sensitive receptors were included within the assessment that are in close proximity to the ABB site. Baseline background air quality indicators were assessed alongside air quality emissions, including dust, generated during construction and operation of the Proposal, through the use of dispersion modelling.</p> <p>The modelling results indicate that dust, TSP, PM₁₀ and PM_{2.5} emissions at sensitive receivers around the Proposal comply with all relevant impact assessment criteria during cumulative construction. In addition, the Air Quality Management Plan that would be prepared as part of the Construction Environmental Management Plan (CEMP) for the Proposal would include principles and mitigation strategies to manage dust emissions during Proposal construction.</p>
NSW Ports	<p>Through consultation undertaken via email on 10/10/2016, NSW Ports has expressed desire for the whole of the logistics chain to operate 24/7, specifically including 24/7 intermodal terminal and warehousing operation as part of the Proposal. In response to this, the amendments to the Proposal include the 24-hour operation of warehousing, which would interact with the operation of the intermodal terminal which is a 24/7 operation.</p> <p>Additionally, NSW Ports requested the provision of wash down container facilities, which could be used for Quarantine wash downs and/or truck wash downs, and Methyl Bromide Quarantine de-gassing areas. The amendments to the Proposal specify the inclusion of a wash-down facility and de-gassing area in the IMT facility.</p>
Moorebank Heritage group	<p>A meeting was held with the Moorebank Heritage Group (MHG) on 2 November 2016. The purpose of the meeting was to discuss the approach for heritage interpretation at the MPW site, including key themes and possible interpretive media.</p> <p>The MHG were in general support of the thematic approach presented, and provided important feedback for the following aspects, which are reflected in the MHG submission and responses presented in Section 4 of this RtS:</p> <ul style="list-style-type: none"> • The need for interpretation to address the context of the surrounding area and its heritage and connections, not just the land of the site itself • The need to balance interpretive content to address earlier time periods as well as the more recent military history of the site • The importance of both on-site interpretation, to create a sense of place and history, and off-site interpretation to provide access to the wealth of information about the area.
TfNSW and Roads and Maritime	<p>A meeting was undertaken with representatives of TfNSW, Roads and Maritime and DP&E on 9 March 2017 to discuss both agencies (TfNSW's and Roads and Maritime's) respective submissions for the Proposal.</p> <p>Key items discussed at the meeting included:</p>

Stakeholder	Consultation undertaken
	<ul style="list-style-type: none"> • Clarification of conditions and requirements relevant for the Proposal with respect to current and future traffic assessments • Clarification of the models used for various stages of the MPW Project, noting comparable results with the “full build vision’ traffic model being developed by Parson Brinkerhoff (PB). It was also noted that cumulative impacts of both Concept Approvals for the Moorebank Precinct (SSD 5066 and SSD MP10-0193) would be included in current and future models • The use of the “full build vision” traffic model as a validation tool for traffic impacts (both within the vicinity of the Proposal and regional network) with respect to each staged application was discussed. It was also discussed that upgrades, relative contributions and a mitigation package could be formulated once the “full build vision” impacts are identified. <p>It was agreed that negotiations and discussions of issues outstanding would be the subject of future meetings and ongoing discussions.</p>
DPI	<p>A letter from DPI entitled <i>Moorebank Precinct East Rail link RALP – Georges River Bridge Project Specific Procedure and Designs</i> originally addressed to CPB was received on the 7th March 2017. The letter makes reference to the MPW Concept Approval (SSD 5066), SSD 5066 MOD1 and MPE Stage 1 (SSD 14_6766). The concerns raised were considered with regard to relevance to the Proposal, and address where applicable in this RtS (refer to Section 4).</p> <p>Key issues raised within this letter include:</p> <ul style="list-style-type: none"> • Groundwater impacts concerning Georges River bridge construction • Concerns that submissions for the MPW Concept Modification RtS have not been addressed • Groundwater monitoring data insufficient (i.e. access to borehole logs, bore census for water monitoring bores and users and summary of groundwater measurements) • Insufficient detail regarding the Groundwater Monitoring Program proposed in the EIS <p>As outlined, several key issues raised relate primarily to the CEMP for MPE Stage 1 Construction Works (Rail Access Land Preparation Works – RALP). A number of aspects raised were repeated from the DPI original submission, addressed in Section 4 of this RtS. In summary, no new issues regarding the Proposal were raised that were not included in earlier submissions.</p>
Community	<p>SIMTA distributed a newsletter to approximately 10,000 households in the suburbs surrounding the MPW site August 2016. The purpose of this letter was to provide an update of the Proposal and the approval process, and to also inform members of the public how they submit formal submission feedback or request more information.</p> <p>A further letter was distributed in November 2016. This letter mentioned that the EIS was on exhibition at the time, with details on how to make a submission. Following exhibition of the EIS, three (3) enquiries from the public were received via the provided mediums specifically referencing the Proposal. More specifically, enquiries received were regarding future jobs (as noted in the July newsletter), an acknowledged receipt of the newsletter as part of a general enquiry, and a specific request for information relating to the Proposal.</p>
Service providers	<p>Ongoing consultation with service and utility providers was undertaken during the preparation and exhibition of the EIS and this RtS. No formal submissions were received as part of the public exhibition of this RtS.</p>

Stakeholder	Consultation undertaken
	<p>Meetings and communications informing the design of water (Sydney Water), energy (Endeavour Energy) and telecommunications (Telstra) services for the MPW site remain ongoing. A summary of consultation activities undertaken with respective service providers is outlined below:</p> <ul style="list-style-type: none"> • Sydney Water – Section 73 was lodged by Sydney Water coordinator, Notice of requirements (NOR) was received and the case number 144793 is still active. A meeting was undertaken with Sydney Water in May 2017 to discuss the precinct strategy and connection to MPE and MPW. The design of Sydney Water services is ongoing and will progress once NOR is updated. • Telstra – Telstra were engaged for a site audit and to discuss the design for services. An onsite meeting was held on 28 April 2017. The audit is currently progressing onsite. The design of the service will start once the audit is completed. • Endeavour Energy – The application for the connection was provided to Endeavour Energy, Design Brief number UIL4692 was received on 31 March 2016. Connect (Level 3 designer) is progressing with the design and coordination of the services.

2.3 Consultation: Next Steps

As provided in Planning Circular (PS 11-022) (30 September 2011) the criteria for an SSD to be determined by the Planning Assessment Commission (PAC) is based on the following:

- More than 25 members of the public having made a submission on the application
- The Council for the area objects in writing to the application
- A political donation disclosure statement has been lodged with the application (i.e. a political donation has been made by the applicant).

During the exhibition of the EIS a total of 148 community submissions were received and Liverpool City Council objected to the Proposal. As a result of both of these factors the Proposal is to be determined by the PAC. Further information on the PAC assessment process, and consultation included as part of this process, is provided at their website (<http://www.pac.nsw.gov.au/>).

In addition to the above, feedback can also be provided to SIMTA at any time via:

- The SIMTA Project website (www.simta.com.au)
- The email feedback system (consulting@elton.com.au)
- The free-call information line (1800 986 465) which is available between 8:30am and 5:00pm weekdays.

SIMTA is committed to continuing to consult with stakeholders, including the community throughout the planning of the Proposal and future stages of development.

3 OVERVIEW OF SUBMISSIONS

A number of submissions have been received during the exhibition of the EIS (between 26 October 2016 and 25 November 2016). These submissions have been received from government agencies, special interest groups, adjoining land owners and the community. The primary objective of this RtS is to collate, analyse and respond to the submissions received during the exhibition of the EIS.

An overview of the submissions and a summary of the process undertaken to ensure that the submissions have been accurately responded to is provided below.

3.1 Submissions Received

Submissions were received from a total of seven government agencies including the following:

- EPA
- OEH
- TfNSW
- DPI (Fisheries and NSW Office of Water)
- NSW Health
- Liverpool City Council
- Campbelltown City Council.

A total of seven submissions were received from special interest groups and immediately surrounding land owners including the following:

- Action for Public Transport
- Glenfield Farm
- Glenfield Waste
- Liverpool Action Group
- Moorebank Heritage Group
- Ryde – Hunter’s Hill Flora & Fauna Preservation Society
- East Liverpool Progress Association.

In addition to this, DP&E received a total of 148 submission from community members and landowners, all of which were in opposition to the Proposal. All submissions were generally individually composed with no clearly identifiable ‘form letters’ received.

Of the 148 submissions 76% were from residents in the Liverpool Local Government Area (LGA) with 12% of submissions having not provided a location. The remaining 12% of submissions were from suburbs in the Campbelltown, Fairfield, Sydney, Inner West, Burnside and Newcastle LGA’s.

Figure 3-1 below highlights the distribution of submissions across suburbs of NSW as follows:

- Wattle Grove (located directly east of the Proposal site) represented the largest number of submissions received (30%).
- Holsworthy (to the south-east of the Proposal site) received the second highest number of submissions (19%).
- Moorebank (the suburb of the Proposal site and immediate surrounds - 17%)
- Chipping Norton (to the north of the Proposal site- 4%).

- A total of 27% of submissions were from various suburbs located outside of the Proposal site boundaries with a portion of responses not listing a location in their submission.

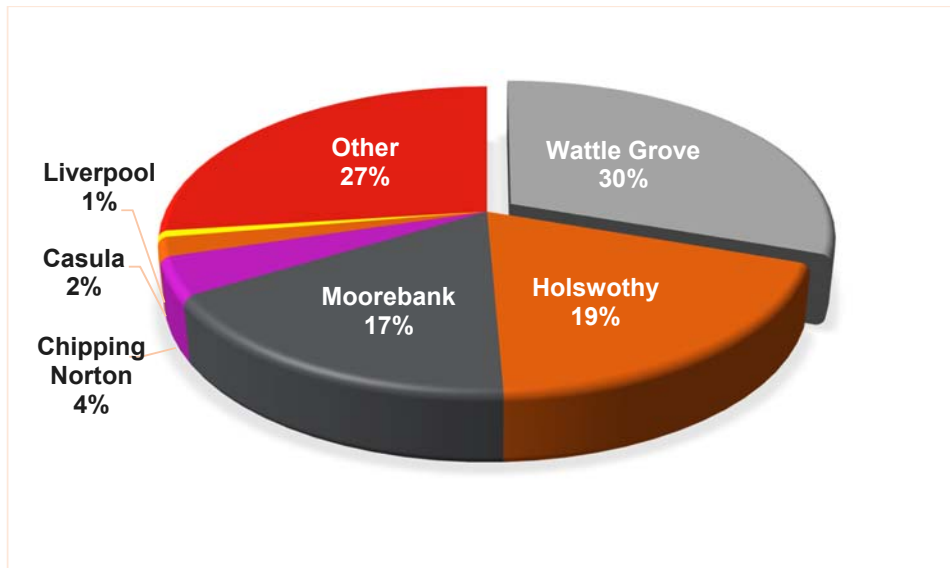


Figure 3-1: Location of community submissions

3.2 Submission response methodology

3.2.1 Technical specialist input to submissions

The nature of submissions provided by both government agencies and specialist interest groups and the community forming this report (refer to Section 4 and Section 5 of this RtS) ranged in content and complexity. Submissions were reviewed and summarised by Arcadis and technical specialist input sought, where relevant, to ensure that this RtS adequately captures and responds to all issues raised in the submissions.

The technical specialist responsible for preparing the relevant specialist report prepared technical responses to key issues and other issues raised in both the government agency, and specialist interest groups and community submissions. Technical specialists utilised information provided within the EIS, undertook additional assessment and drew upon information provided within the technical specialists reports, appended to this RtS.

A summary of technical specialists engaged for the preparation of this report is provided below in Table 3-1.

Table 3-1: Technical Specialist Input Summary

Aspect	Company Name
Environmental Impact Assessment	Arcadis
Traffic and transport	Arcadis
Air Quality/Best Practice	Ramboll Environ
Human health	Ramboll Environ
Noise and Vibration/Best Practice	Wilkinson Murray
Stormwater and flooding	Arcadis

Aspect	Company Name
Heritage	Artefact
Biodiversity	Arcadis
Visual/Architectural	Reid Campbell
Landscape Design	GroundInk
Hazard and risk	Arcadis
Waste	Arcadis
ESD	Arcadis
Property and infrastructures	Arcadis
Greenhouse Gas	Arcadis

3.2.2 Government Agencies

As outlined in Section 3.1, a total of seven government agencies provided submissions. Each submission varied in terms of the number and type of items raised, with some agencies, depending on their function/responsibility, raising more issues than others. Each agency submission was reviewed and either transcribed in full, or summarised to identify the key points.

The submissions were then provided to the SIMTA technical specialist's team for consideration and preparation of a response. The information relevant to these responses has been referenced and addressed in the response tables in Section 4 of this RtS. Where additional reporting was required to be prepared it has been provided as an appendix to this RtS.

3.2.3 Specialist interest groups and the community

As outlined in Section 3.1, a total of seven specialist interest groups and immediately surrounding land owners provided submissions. Each submission varied in terms of the number and type of items raised. Each submission was reviewed and either transcribed in full, or summarised to identify the key points. The submissions were then provided to the SIMTA technical specialist's team for consideration and preparation of a response as identified in Section 5 of this RtS.

As outlined in Section 3.1, a total of 148 submission were received from community members. These submissions were summarised into key aspects, issues and sub-issues using the reference number assigned to each submission by DP&E. The process of identifying this detail was iterative, utilising three rounds of review to capture each level of detail – key aspects, issues and sub-issues. Each submission was analysed and responded to at an issue and aspect level.

3.2.4 Summary

Section 4.1 summarises and analyses the submissions received from the community. A complete table showing all of the aspects, issues and sub-issues raised by the community, by their reference number (assigned by the DP&E) is provided within Appendix A of this RtS.

A large number of the community submissions received were not directly relevant to the scope of the Proposal, as detailed in Section 3.2.6 of this report.

The aspects, including number of submission and percentage of submissions raising this aspect, identified in the submission analysis are outlined in Table 3-2 and Figure 3-2.

Table 3-2: Summary of aspects identified in community submissions

Aspect	No. of submissions raising aspect
Traffic	125
Out of scope	64
Air	60
Noise	56
Community	38
Health	36
Other Issues	36
Flora & Fauna	35
Economics	29
Planning Process	24

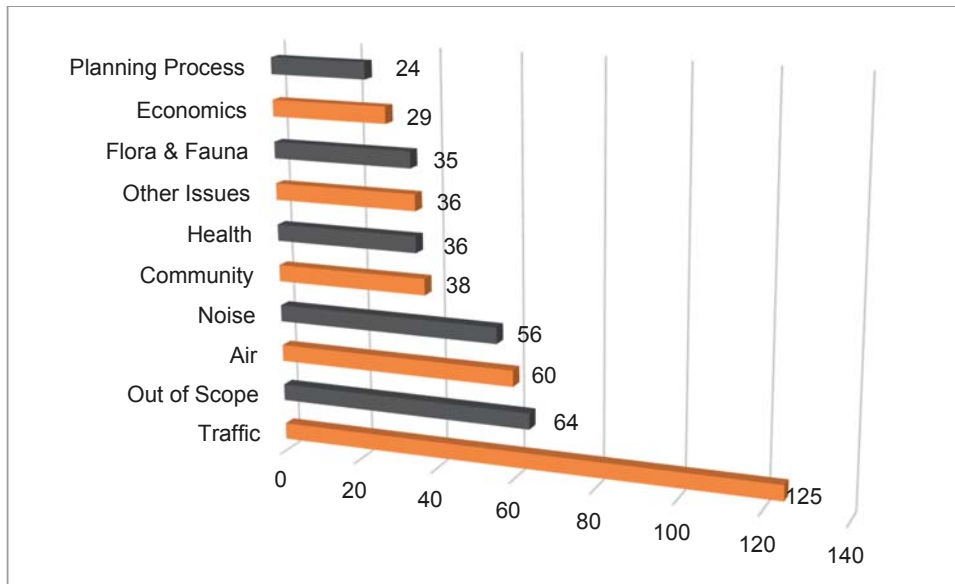


Figure 3-2 Number of submissions raising aspect

3.2.5 Key Issue Analysis

Table 3-3 shows a summary of all the issues that were raised by the community during the public exhibition of the report.

Table 3-3: Summary of key issues raised by the community

Aspect	Issue	No. of submissions raising issue
Traffic	Congestion/capacity	65
	General traffic impact	19
	Safety	15
	Traffic Impact Assessment	5
	Road Infrastructure	5
	Use of local roads	5
	Access	1
Noise	General noise emissions	29
	Operational Noise	15
	Mitigation	6
	Noise Impact Assessment	4
	Crushing Plant	2
Air	Air quality/pollution	56
	Methodology	3
	Particulate matter	1
Health	Human health	22
	General health impacts	12
	Effects of Particulate matter	2
General environment	Georges River/Waterways Impacts	17
	Light pollution	7
	Contamination	4
	General Environment	1
	Aboriginal heritage	1
	European heritage	1
	Bushfire	1

Aspect	Issue	No. of submissions raising issue
	Visual	1
Planning Process	Approvals	7
	General	6
	Technical specialist studies	5
	Combined Project	4
	Environmental Management documents	2
Economics	Reduction in property prices and compensation	11
	Employment	9
	General	8
	Cost of the project	1
Community	Impacts to community and lifestyle	21
	Consultation	8
	Safety	4
	Social	3
	Cultural	1
	Rail network	1
Flora & Fauna	General	24
	Vegetation Management	2
	Impacts to Native species	9
Out of Scope	-	64

Key Issues

A summary and analysis of the top four key aspects has been provided below.

Traffic

As shown above, traffic has been identified by the community as being the key aspect of concern for the Proposal. The submissions raised were generally related to the additional construction and operational traffic movements caused by the Proposal and the potential impacts this would have on the surrounding road networks.

The top two issues identified within the traffic aspect are:

- Congestion/Capacity – concerns regarding congestion on the road network associated with the traffic movements generated by the Proposal during both the construction and operation phases
- General traffic impact – concerns related to the increasing number of heavy vehicles on the road networks during both the construction and operational phases and the subsequent traffic impact to the areas directly surrounding the Proposal site.

Figure 3-3 highlights the breakdown of all key issues raised by the community in relation to Traffic.

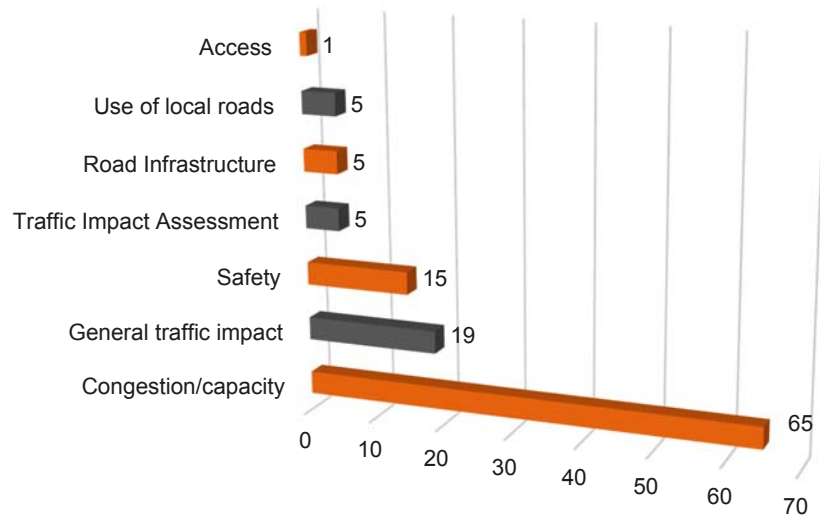


Figure 3-3: Traffic key issue breakdown by number of submissions

Air Quality

Air quality was identified by the community as the second key aspect. The submissions raised were generally concerned with the potential for increased levels of pollution in the area.

The top two key issues identified within the air quality aspect are:

- Air quality/pollution - concerns surrounding diesel pollution from an increase in heavy industry and trucks in the area from the day to day operation and construction of the terminal
- Methodology – concerns that impact assessment have not considered nearby schools and that air quality monitoring should be undertaken in the areas closest to the Proposal site.

Figure 3-4 highlights the breakdown of all key issues raised by the community in relation to air quality.

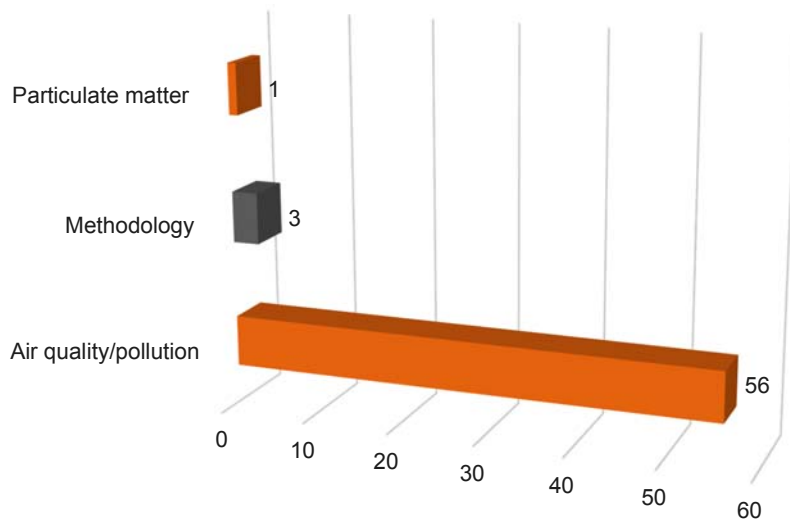


Figure 3-4: Air Quality key issue breakdown by number of submissions

Noise

The third most prominent aspect raised by the community was noise. A majority of responses voiced concern with the proximity of the Proposal to residential areas.

The top two key issues identified within the noise aspect are:

- General noise emissions – all noise created during both construction and operational phases as a result of heavy vehicles and machinery
- Operational noise – the noise generated from operational activities such as wheel squeal from trains, train shunting, and heavy machinery/engine sounds and alarms and buzzers, from the Proposal.

Figure 3-5 highlights the breakdown of all the key issues raised by the community regarding Noise.

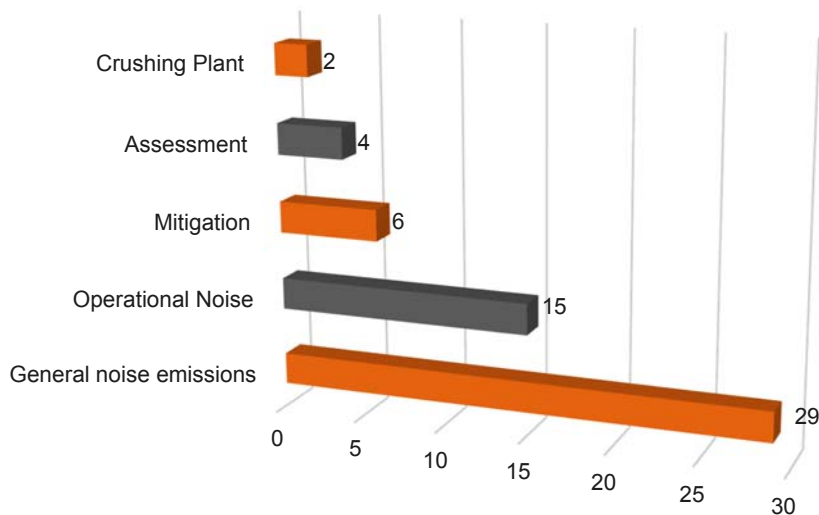


Figure 3-5: Noise key issue breakdown by number of submissions

Community

Impacts related to the community itself were raised by the community as the fourth most prominent aspect related to the Proposal.

The two top key issues identified within the Community aspect are:

- Impacts to community and lifestyle – concerns that the Proposal would have a tangible negative impact on the community, the families and the lifestyles of the current residents and that the area itself would suffer from a change in character
- Consultation – concerns were raised regarding the consultation undertaken, such as residents not feeling included in the decision making process and important information not being provided in languages other than English.

Figure 3-6 highlights the breakdown of all the key issues raised by the community in relation to Community.

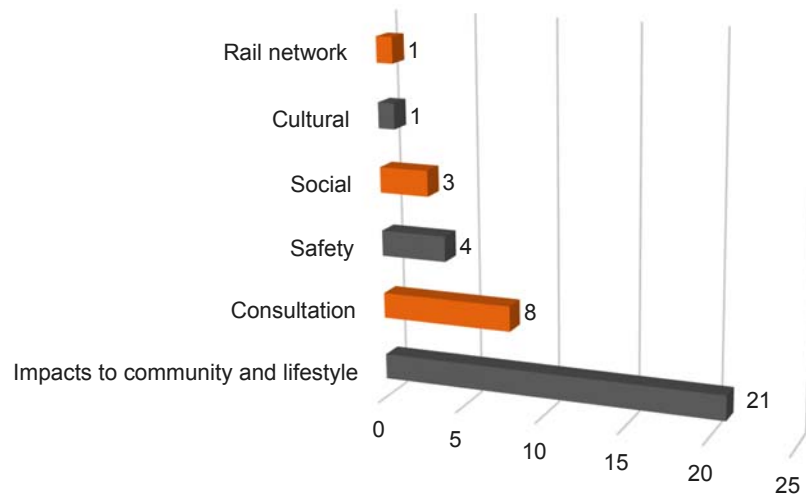


Figure 3-6: Community key issue breakdown by number of submissions

3.2.6 Other submissions

Of the 148 community submissions received, 64 submissions were submissions that did not directly relate to the Proposal. Justification as to why these are considered to not directly relevant to the Proposal, or this RtS, is provided in Table 3-4.

Table 3-4: Other submissions

Submission Group	General comments	Response
Location of IMT	<p>A number of alternative locations were considered more suitable by the community for the Proposal, namely:</p> <ul style="list-style-type: none"> • New Airport in Badgerys Creek • Chullora 	<p>The MPW Concept Approval (5066) granted by the PAC on 3 June 2016, approved the use of the site for the MPW Project. The location of the MPW Project, and use of the site, are not subject of the development application for Stage 2 of the MPW Project. Therefore, the location and use of the MPW site and Proposal site in Moorebank is considered to have been addressed in the MPW Concept Approval</p>

Submission Group	General comments	Response
	<ul style="list-style-type: none"> • Eastern Creek • off the M7 or to the north or South of Sydney • Port Botany (only) • Newcastle. <p>In addition to this concern was raised that the Project is not suitable for the proposed development type. An alternative should be considered such as waterfront housing development.</p>	<p>and supported by government agencies. A change to the location of the site is therefore not considered suitable at this stage of development.</p>
Other approvals	<p>Some submissions raised other approvals which are not the subject of this Proposal. In particular, a submission indicated that there has been a failure to specify the exact quantity of fill in the MPW Early Works modification.</p>	<p>As discussed in section 4 of the EIS, the Proposal, amongst other construction activities, includes the importation of approximately 1.6 million cubic metres (m³) of fill to the Proposal site. As discussed in Section 1.4.1 of the EIS, a modification to the MPW Concept Approval (SSD 5066) is to be undertaken to facilitate for this additional importation of fill to the Proposal site.</p> <p>The exact amount of fill has been clearly stated in the EIS.</p> <p>The fill is also identified within the MPW Concept Modification Report (SSD-5066_MOD1), which is subject to a separate approval process. Reference should be made to the 'Moorebank Precinct West Concept Modification – Response to Submissions – SSD 5066 MOD 1' prepared by Arcadis, dated 5 December 2016, which finished exhibition on 24 February 2017.</p> <p>This comment is therefore related to the modification rather than the Proposal.</p>
Economic justification	<p>The following comments have been raised by the community relating to the financial viability of the MPW Project, rather than the Proposal:</p> <ul style="list-style-type: none"> • The Intermodal will not help assist with the state economy • The Intermodal would not assist with improving freight efficiency • Costs of delivering freight out of Moorebank instead of Port Botany will go up and effect tax payers. 	<p>The MPW Concept Approval (5066) was granted by the PAC on 3 June 2016. The MPW Concept EIS included considerable economic justification, including the identification of economic benefits for the MPW Project. This approval identifies that the NSW state government supports, subject to satisfying conditions of approval, the feasibility of the operation of the MPW Project on the western side of the Moorebank Avenue, Moorebank.</p> <p>Sections 3 and 20.5 of the EIS reiterate the potential economic impacts and economic benefits at a Proposal level (i.e. as part of the larger economic benefits provided for the MPW Project).</p>

Submission Group	General comments	Response
		Further discussion over the economic viability of the entire MPW Project, based on the approval provided, is therefore not considered relevant to this stage of development/approval.

4 RESPONSE TO GOVERNMENT AGENCY SUBMISSIONS

The following Local and State government authorities provided responses as part of the public exhibition of the EIS:

- EPA
- OEH
- TfNSW
- DPI (Fisheries and NSW Office of Water)
- NSW Health
- Liverpool City Council
- Campbelltown City Council.

These submissions have been collated and analysed with responses provided below.

4.1 Environment Protection Authority

A formal submission comprising a letter (dated 25 November 2016) was received from the EPA. Several comments were provided, as summarised and responded to below.

Aspect	Comment	Response	Reference
Land Contamination			
Site remediation	The EPA recommends the proponent engage an EPA accredited site auditor to approve the remediation works and other activities during the proposed construction works which may pose environmental or human health risks. An EPA accredited site auditor will also assess the suitability of the land for the intended use.	<p>As outlined in Section 13.3.2 of the EIS, and Appendix S of the EIS, the majority of contamination remediation across the MPW site would be undertaken as part of the approved Early Works (SSD 5066). An accredited site auditor has been engaged for these works and they are working closely with the construction team on the Early Works remediation already.</p> <p>Active site remediation works for the Proposal to be undertaken during construction relate to areas in which remediation cannot occur during Early Works due to the presence of Endangered Ecological Communities (EEC). An accredited site auditor will also be engaged for these works. At the conclusion of the remediation works, a remediation and validation report (RVR) would be prepared and provided to a NSW EPA accredited site auditor for review. Once satisfied, the site auditor would issue a Section A – Site Audit Statement stating that the remediated portions of the site are satisfactory for the intended commercial/industrial use. The RVR and Site Audit Statement would be provided to the consent authority to satisfy the obligations under Clause 7(1) of SEPP 55 (refer to Section 22 of the EIS and Section 8 of this RtS for further details).</p>	<p>Section 13.3 and Appendix S of the EIS.</p> <p>Section 8 of this RtS</p>

Aspect	Comment	Response	Reference
Noise and Vibration			
Construction Noise	<p><u>On-site crushing and concrete batch plant</u></p> <p>Before approving the project, the DP&E should require the proponent to justify why on-site crushing and concrete batch plant are desirable in this case.</p> <p>The project includes using crushing plant and one or more concrete batch plant. These appear to be proposed so that concrete products can be produced on-site rather than bought from another supplier. Based on the assessment, the batch plant will run for at least three years.</p> <p>Use of construction noise criteria for temporary batch plants when concrete is locally available may lead to perverse outcomes where louder temporary plants are preferred over established operational plants. Before approving this proposal, the DP&E should require the proponent to explain why on-site crushing and concrete batch plant are desirable in this case. For example:</p> <ul style="list-style-type: none"> • Are there materials which should be recycled on-site, to avoid unnecessary transport impacts? • Are suitable products not available, so they need to be produced on-site? • Any potential benefits of on-site recycling and reductions to transport volumes need to be balanced against increased impacts caused by on-site processing during the construction phase, including noise. 	<p>As outlined in Section 4.3 of the EIS, onsite crushing capacity is required as imported fill material may contain large boulders that would require crushing to make suitable as engineered fill for site construction. Demolition waste stockpiled after Early Works may also be crushed for potential recycling and reuse on the site as general fill, as discussed in Section 5.2 of the EIS. This would reduce transport impacts generated as a result of offsite disposal. The inclusion of a crusher onsite would allow for onsite recycling of suitable products recovered during demolition, thereby potentially reducing the volume of imported fill.</p> <p>Section 5.2 of the EIS describes the purpose of the proposed batching plant to produce concrete to form the base slab for the Proposal site. Premade cement, sand and aggregate would be brought to site for mixing as ingredients of the final batched concrete. The inclusion of a batching plant onsite is desirable as it would reduce traffic impacts during construction by eliminating the requirement for pre-mixed concrete to be imported to site for immediate pour (as would be the case without a batching plant). Concrete pours typically would occur in the mornings within the morning peak traffic period, and by having a batching plant onsite, the concrete constituents can be brought to site during off-peak periods and mixed when required with site water sources, thereby alleviating traffic impacts generated by the Proposal construction.</p> <p>The predicted noise impacts associated with batch plant and crushing facilities during construction are assessed in Section</p>	Section 4.3, 5.2 and 8 of the EIS.

Aspect	Comment	Response	Reference
		<p>8.4 of the EIS. Specifically, this section outlines sound power levels associated with both the batching plant and crusher, which would be used during works period B and C (crusher) and works periods D, E and F (concrete batching plant) during standard working hours. A comparison of predicted noise levels against NMLs generated for the Proposal indicate noise levels would be below criteria during all construction works periods at all receivers monitored, with the exception of a 1dB exceedance in Casula during works period C (bulk earthworks activities). As outlined in Table 8-17 of the EIS, total sound power levels ($L_{aeq, 15 \text{ min}}$) for this phase of construction would be made up of a wide range of plant and equipment, of which the crushing plant is 4dB below the loudest (the batching plant is not included in this phase). It is therefore concluded that the crushing plant would contribute only a minor amount to the overall 1dB exceedance, which in itself is considered negligible.</p>	
	<p><u>Out of hours construction works</u></p> <p>Before approving the project, the DP&E should require the proponent to justify why out of hours construction works are necessary (for reasons other than convenience).</p> <p>The assessment proposed, without justification, out of hours works including material delivery and direct placement or stockpiling:</p> <p>between 6am and 7am on weekdays between 6pm and 10pm on weekdays between 7am and 8am Saturdays between 1pm and 6pm Saturdays.</p> <p>The Interim Construction Noise Guideline suggests that out of hours work should only occur with strong justification. Out of hours works should only be allowed if further justification is provided and for reasons other than convenience, for</p>	<p>Section 8.4.1 of the EIS outlines the likely timing and nature of the out-of-hours activities for the Proposal. Out-of-hours activities are required to reduce impacts on the AM and PM peak periods thereby reducing impacts associated with traffic. Activities have been selected and restricted to ensure compliance with the NSW EPA <i>Interim Construction Noise Guidelines</i> (ICNG), i.e. not propose any works that would impact on the surrounding land uses above the relevant criteria. SIMTA undertook a considerable amount of preliminary assessment to reduce and mitigate these impacts prior to the preparation of the chosen construction methodology in the EIS.</p> <p>The construction activities for the Proposal are divided into distinct out-of-hours periods to spread the least noise-intensive</p>	<p>Sections 8.4, 22 and Appendix N of the EIS.</p> <p>Section 8 of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>example if it is unsafe to do certain work during standard hours.</p> <p>The proponent should check that out of hours noise management levels are based on rating background levels measured at appropriate times.</p> <p>Noise management levels for standard hours and out of hours works seem to have all been based on the daytime rating background levels. They should be checked to make sure the daytime rating background level is consistent with each of the rating background levels for standard hours, and for the out of standard hours of 6am to 7am weekdays, 7am to 8am Saturdays, 6pm-10pm weekdays and 1pm to 6pm Saturdays.</p>	<p>construction activities into off-peak traffic periods, thereby ameliorating local traffic disruptions associated with materials delivery (OOH period 1) and materials delivery and direct placement or stockpiling (OOH periods 2, 3 and 4).</p> <p>The Noise Management Levels prescribed for OOH works periods are derived from the noise affected RBL + 5 criteria based on the NSW EPA ICNG. A review of the noise monitoring plots indicates that ambient L₉₀ noise levels in nearby residential noise catchment areas typically increase from 5:00am and are typically equal to or greater than the daytime RBL from approximately 6:00am onwards. Therefore, the daytime RBL is considered representative of the background noise levels in OOH periods 1, 3 and 4. OOH period 2 occurs during the evening (6:00pm – 10:00pm) period and therefore, the evening RBL has been used to establish the OOH noise management levels during OOH period 2. It should be noted that the evening RBL in Casula, Glenfield and Wattle Grove, established in accordance with the INP, are equal to the daytime RBL. Therefore, the established OOH noise management levels in each catchment are constant, which may appear uncommon.</p> <p>Overall, the out of hours works are considered necessary to reduce traffic impacts of the Proposal, while complying with the relevant noise criteria. This construction noise would be further managed through the implementation of both noise monitoring and the Construction Noise and Vibration Management Plan, as part of the CEMP, during construction of the Proposal (refer to Section 22 of the EIS and Section 8 of the Rts).</p>	

Aspect	Comment	Response	Reference
	<p><u>Construction noise and management plan</u></p> <p>The assessment predicted that construction noise from the project would exceed standard hours noise management levels by about 1 dBA in Casula. The assessment stated that a construction noise and vibration management plan would be developed, and that commitment should be adopted in any approval for the project.</p>	<p>Agreed and noted. A Construction Noise and Vibration Management Plan, as part of the CEMP for the Proposal is to be implemented during construction (refer to Section 22 of the EIS and Section 8 of the RtS).</p>	<p>Sections 22 and Appendix N of the EIS.</p> <p>Section 8 of this RtS</p>
Operational Noise	<p><u>Best Practice Plant</u></p> <p>Best practice plant should be used to minimise noise levels from the site, including electric automated container handling equipment or equipment with equivalent sound power levels. This will avoid unnecessary noise constraints on future projects.</p> <p>Diesel reach stackers are proposed. Condition E1 of approval SSD 5066 requires development applications to consider best practice plant including electronic automated container handling equipment or equipment with equivalent sound power levels.</p> <p>The Best Practices Review: Noise stated that full electrification of container handling equipment could significantly reduce noise emissions, but "since proposal operations can comply with noise criteria, the use of hybrid or electric container handling equipment is not considered necessary". However, the assessment predicted project specific noise levels would not be met at receivers in Casula during adverse weather.</p> <p>As advised for the site's concept proposal, best practice plant should be used to minimise noise levels, including electric automated container handling equipment or equipment with equivalent sound power levels. This will minimise noise</p>	<p>Best practice plant, including the consideration of electric automated handling equipment, is discussed in Section 8.2 and 9.2 of the EIS. Achieving compliance with noise performance criteria, specifically the established project-specific noise level (PSNL) is considered a key part of achieving best practice.</p> <p>Section 7.3 of Appendix N of the EIS identified a potential exceedance of the night time PSNL of up to 1 dBA at up to 6 of the most affected residential receivers in Casula under adverse meteorological conditions, and concluded that these exceedances should be effectively mitigated during detailed design.</p> <p>Notwithstanding the above, SIMTA has given further consideration to the implementation of best practice for the Proposal. Appendix K of this RtS provides further information on best practice that is to be undertaken for the Proposal. As SIMTA already owns both fleet (locomotives, trucks) and equipment (reach stackers) it is not considered reasonable and feasible for all best practice measures to be implemented for all fleet and equipment for the Proposal on day one of operations (however some will be). The revised best practice approach (refer to Appendix K of this RtS) is considered reasonable, feasible and necessary to achieve long-term</p>	<p>Sections 7.3, 8.2, 9.2 and Appendix N and O of the EIS</p> <p>Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>impacts and avoid unnecessary constraints on future projects. It is generally easier to implement quieter technologies from the start of a project.</p>	<p>emissions reductions throughout the operational life of the Proposal.</p> <p>It should be noted that gantry cranes (electric or otherwise) are not suitable for the unloading of trains for the IMT included in the Proposal. The variability and the maximum length of the trains (i.e. 1800 m) reduces the efficiency of gantry cranes and requires the use of more versatile handling equipment such as reach stackers. This is different to the MPE Stage 1 (SSD 14-6766) IMT (IMEX) which accommodates all 650 m trains and therefore the installation of gantry cranes is considered suitable for operational efficiency. Although not the key reason, the exclusion of gantry cranes from the MPW site would reduce the visual impacts of the Proposal.</p> <p>Of particular relevance, is that the best practice information provided at Appendix K of this RtS identifies that hybrid diesel/electric reach stackers (subject to availability) would be purchased in the first year of operations of the Proposal. This along with other proposed best practice measures for container handling equipment and site operations is considered to reduce the noise and air emissions of the Proposal.</p>	
	<p><u>Port shuttle locomotives and best practice technologies</u> Before granting project approval, the Department of Planning and Environment should require the proponent to detail how the expected locomotives incorporate available best practice technologies.</p> <p>The assessment stated that port shuttle trains will "typically comprise one 81 Class locomotive and 38 wagons", and that interstate freight trains accessing the site will typically include four 81 Class locomotives. The 81 Class has operated in</p>	<p>As outlined above, SIMTA has undertaken further consideration of the implementation of best practice for the Proposal. Appendix K of this RtS provides further information on best practice that is to be undertaken for the Proposal.</p> <p>The Proposal's IMT Facility is to be operated by SIMTA, and would be accessed by both SIMTA's existing fleet of locomotives and wagons as well as those owned by external rail distribution providers currently operating on the Southern Sydney Freight Line (SSFL) and throughout the Sydney region</p>	<p>Section 8.4 and Appendix O of the EIS</p> <p>Section 9.3 of the MPE Stage 1 EIS</p> <p>Appendix K of this RtS</p>

Aspect	Comment	Response	Reference
	<p>NSW since 1982, representing technology that is more than 30 years old. Significant advancements have occurred over that time with potential for significantly lower noise emissions, including gensets, hybrids, "last mile" diesel, and idle reduction technologies.</p> <p>The assessment, and the best practices review, did not detail any best practice technologies used in the 81 Class. Condition E3 of SSD 5066 requires development applications to "detail how the expected port shuttle locomotives incorporate available best practice technologies.</p>	<p>(i.e. open access). As outlined in Appendix K of this RtS, incremental implementation of best practice is proposed to ensure that the Proposal makes a reasonable and feasible longer-term operational commitment to best practice over the next decade, that does not impose impractical restrictions on the use of existing fleet and equipment (either captive or that operating on the wider freight network) upon the commencement of operations.</p> <p>A commitment for the implementation of this best practice has been included as a mitigation measures in Section 8 of this RtS.</p> <p>From a noise perspective, locomotives using the Rail link associated with the Proposal would operate under recommended conditions set by the Department of Planning and Environment as identified for the MPE Stage 1 Project (SSD 14-6766). Measures have been adopted for the Proposal to ensure compliance with the noise criteria set out under EPL No. 3142 for the Southern Sydney Freight Line.</p> <p>From the commencement of operations, a rail noise monitoring system would be implemented. The ambient noise monitoring surveys undertaken within Casula, Wattle Grove and Glenfield would be continued throughout the operation of the Proposal (with annual reporting of noise results up to two years beyond the completion of the Proposal). In the event of any noise or vibration related complaint or adverse comment from the community, noise levels would be investigated. Remedial action would be implemented where feasible and reasonable.</p>	

Aspect	Comment	Response	Reference
	<p><u>Rail noise levels</u></p> <p>The expected increase in rail noise due to the project should be quantified using rail noise levels measured or predicted at the same point as used to predict the rail noise level for the project, using the same parameter.</p> <p>The assessment used the $L_{Aeq(24hour)}$ 48.4 dBA rail noise level predicted for year 2020 at 77 Leacocks Lane, Casula, in the Southern Sydney Freight Line Operational Noise and Vibration Management Plan (Appendix B of the Operational Environmental Management Plan), to suggest that the project's rail movements would increase $L_{Aeq(period)}$ rail noise levels by less than 2 dB at Lot 21 Leacocks Lane, the closest receiver in the area.</p> <p>The assessment relied on some optimistic assumptions:</p> <ul style="list-style-type: none"> • The assessment stated that existing rail noise levels at Lot 21 Leacocks Lane were 3 to 5 dBA above those at 77 Leacocks Lane, because Lot 21 Leacocks Lane had direct line of sight to the Southern Sydney Freight Line and 77 Leacocks Lane does not. The 3 to 5 dBA appears to be a subjective estimate rather than being based on modelling. • Rail noise levels in the area will not change significantly between now and 2020. • The $L_{Aeq(24hour)}$ predicted in the Southern Sydney Freight Line plan is equivalent to the $L_{Aeq(night)}$ predicted in the assessment. <p>The expected increase in rail noise due to the project should be quantified using rail noise levels measured or predicted at the same point as used to predict the rail noise level for the</p>	<p>As demonstrated in the technical memo accompanying these responses to submissions (refer to Appendix D of this RtS), updated rail noise modelling indicates that the $L_{Aeq,period}$ rail noise levels from the Proposal would comply with the RING criteria for "private non-network rail lines" in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula. Existing levels of rail noise have been established at a number of locations in Casula, including the area where the RING criterion is predicted to be exceeded. At this location, it is demonstrated that the Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dB, which is considered unlikely to be noticeable and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA $L_{Aeq, 15 hour}$ and 60 dBA $L_{Aeq, 9 hour}$ for daytime and night time, respectively.</p>	<p>Section 8.2.1 and Appendix N of the EIS</p> <p>Appendix D of this RtS</p>

Aspect	Comment	Response	Reference
	<p>project, using the same parameter. The method used to estimate rail noise increase in the assessment was highly subjective and reliant on assumptions which were not adequately explained.</p>		
	<p><u>Potential sleep disturbance</u></p> <p>Further detail should be provided on sleep disturbance impacts from the project, as it is likely to increase the number of events above L_{Amax} 65 dBA (55 dBA indoors).</p> <p>Predicted L_{Amax} rail noise levels were between 7 and 14 dBA above the screening criteria at the three receiver catchment areas modelled (Casula, Glenfield and Wattle Grove). Casula was the only suburb where the 95th percentile L_{Amax} was predicted to be above 65 dBA (up to 67 dBA), indicating that one out of six expected rail movements in the night time could contribute an L_{Amax} event above 65 dBA (roughly equal to 55 dBA inside a habitable room).</p> <p>The assessment relied on research summarised in the NSW Road Noise Policy to conclude that freight rail movements associated with the project, in the absence of wheel squeal, were unlikely to awaken people from sleep or affect health and wellbeing significantly. It also noted:</p> <ul style="list-style-type: none"> existing movements on the Southern Sydney Freight Line and Main South Line were likely to contribute L_{Amax} events above 65 dBA L_{Amax} noise levels from the project were "unlikely to cause a noticeable change to the existing acoustic environment". <p>But the project is likely to increase the number of L_{Amax} events above 65 dB outdoors (55 dB indoors) at the nearest</p>	<p>RING specifies L_{Aeq} and L_{Amax} trigger levels for network rail developments, and also specified separate L_{Aeq} triggers levels for private non-network rail developments. In the NVIA for the MPE Stage 1 Proposal EIS, which sought approval for the establishment of the Rail Link between the Intermodal Precinct and the SSFL, L_{Amax} rail noise levels from the Rail Link were assessed against the RING L_{Amax} criterion for a redevelopment on a network rail line. Following the exhibition of the MPE Stage 1 EIS, EPA made a submission requesting that L_{Amax} rail noise levels from the Rail Link be assessed in accordance with the INP Application Notes on sleep disturbance. The requested assessment was provided in a technical addendum, and the MPE Stage 1 Proposal was approved.</p> <p>In the NVIA for the Proposal (MPW Stage 2), L_{Amax} rail noise levels were assessed in a consistent manner to those in the technical addendum provided to EPA for the MPE Stage 1 Project.</p> <p>According to NSW Government noise guidelines and policies, it is unclear how L_{Amax} noise levels from private non-network lines should be assessed, particularly those in the vicinity of existing network rail lines. It is noted that the EPA's submission for this RtS regarding sleep disturbance suggests that external L_{Amax} noise levels above 65 dBA should be investigated, however RING recommends an L_{Amax} trigger level of 85 dBA for a development on an existing network rail line.</p>	<p>Section 8 and Appendix N of the EIS</p> <p>Appendix D of this RtS</p>

Aspect	Comment	Response	Reference
	<p>sensitive receiver in Casula, increasing the chance of sleep disturbance.</p> <p>As suggested by the application notes for the industrial noise policy, further detail should be provided on maximum noise level events during the night time. For example, by comparing the number of events per night above L_{Amax} 65 dB outdoors with the project and without the project.</p>	<p>Notwithstanding the above, the methodology suggested by the EPA in their submission for this RtS has been adopted. As documented in the Noise Technical Memorandum accompanying these responses to submissions (refer to Section 7 and Appendix D of this RtS), the findings of this assessment indicate that the Proposal would potentially increase the number of L_{Amax} noise events above 65 dBA, at the most affected residential receiver, from 34 to 35 events per night. This increase in the number of L_{Amax} noise events above 65 dBA is considered negligible.</p>	
	<p><u>Operational noise model</u></p> <p>The proponent should explain the locomotive sound power levels used in the operational noise model:</p> <ul style="list-style-type: none"> • An idling locomotive was given a sound power level of 100 dBA or 110 dBZ. This suggests a sound pressure level at 15 metres of 76 dBA which complies with EPA locomotive noise limits. • A locomotive moving at 10 km/h was given a sound power level of 106 dBA or 142 dBZ. At 15 metres this suggests a sound pressure level of 84 dBA or 118 dBZ, complying with EPA A_c weighted locomotive noise limit but much higher than the Z-weighted noise limit (95 dBZ). • The assessment stated that network modelling assumed 81 class locomotives were used, but did not explain the assumptions used for on-site locomotive sources. The ETTT Alliance high noise locomotive paper showed that recent performance of 81 class locomotives is variable, with sound pressure levels at 15 metres up to 99 dBA and 103 dBZ. 	<p>Operational sound power levels for the Proposal are outlined in Section 8.4 of the EIS (Table 8-22). The continuous SWL adopted for idling and slowly moving locomotives are 100 dBA and 106 dBA, respectively. These values are considered representative of typical 81 class locomotives and are consistent with the TfNSW Rail Noise Database (V3) for idle and low notch settings, respectively. There is potential for individual locomotives to have slightly higher, or lower, SWLs than those adopted in the modelling. However, since the modelling assumes that a total of 8 locomotives are on the site at the same time, and that there will a range of actual SWLs for the individual locomotives, it is considered appropriate that typical SWL values, such as those presented in the TfNSW Rail Noise Database (V3), are adopted for assessment purposes.</p>	<p>Section 8.4 of the EIS</p>

Aspect	Comment	Response	Reference
	<p>The proponent should explain what curve gain was applied to rail noise predictions for the project, and assess the impact of curve noise (wheel squeal and flanging) and brake squeal from interstate trains.</p> <p>The assessment stated that because of relatively low train speeds (average 35 to limit 60 km/h), no corrections were applied to noise at turnouts and crossovers. But it is not clear whether any curve gain was applied.</p> <p>The assessment suggested that best practice rolling stock was required by the draft conditions of approval for Moorebank Precinct West stage 1, so wheel squeal and flanging were unlikely to occur and noise from rolling stock would be lower than existing rolling stock in NSW.</p> <ul style="list-style-type: none"> The draft conditions for Moorebank Precinct East Stage 1, and final conditions for the Moorebank Precinct West concept, only require "best practice" rolling stock on port shuttles. This means that trains accessing the site from interstate may generate more curve noise which should be assessed, including assessing the "extent of wheel [and brake] squeal across the fleet of rail vehicles that will frequently use" the project (Condition E2 of approval SSD 5066). 	<p>The design of the alignment for the Rail link was approved and is to be constructed under the approved MPE Stage 1 Project (SSD14-6766). The construction and design of the Rail link is therefore not considered relevant to the Proposal. The Proposal seeks approval only for the operation of trains on the Rail link and the construction of a Rail link connection (refer to Section 4 of the EIS). For the noise impact assessment provided in the Proposal, curve gain was applied to the Rail link and measured as a function of the track radius. No corrections were applied for increased noise levels from turnouts or crossovers (refer to Section 8.4 and Appendix N of the EIS).</p> <p>The operation of the Rail link and the modelling methodology for the assessment of LAeq rail noise levels are outlined in Section 8.1 and Section 8.2 of the NVIA, respectively. Due to the Conditions of Approval for the operation of the Rail link, all port shuttle trains must incorporate best practice rolling stock and the operation of the Rail link must include track grinding and lubrication. These measures have been shown to be more than 90% effective at controlling squeal, and as such, no curve gains for brake squeal or wheel squeal have been applied.</p> <p>Further to the above, SIMTA has had further consideration to the implementation of best practice for the Proposal. Appendix K of this RtS provides further information on best practice that is to be undertaken for the Proposal. As SIMTA already owns both fleet (locomotives, trucks) and equipment (reach stackers) it is not considered reasonable and feasible for all (however some will be) best practice measures to be implemented for the Proposal on day one of operations. The approach presented in the revised Best Practice Summary (refer to Appendix K) is considered reasonable, feasible and</p>	<p>Sections 4, 8.4 and Appendix N of the EIS</p> <p>Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
		necessary to achieve long-term emissions reductions throughout the operational life of the Proposal.	
	<p><u>Detailed design needs</u></p> <p>Building and barrier layouts, and operational efficiencies, should be optimised during detailed design, so that operational noise from the project meets, or is lower than, the project specific noise levels. This should be outlined in a revised noise impact assessment following detailed design.</p> <p>The assessment predicted that operational noise from the site may be up to 1 dBA above the project specific noise level during adverse weather. It said that "exceedances of up to 1 dB are considered negligible", but that options such as changing warehouse layouts would achieve noise reductions and be investigated during detailed design. It also stated that the proposed noise wall and operational efficiencies could be optimised during detailed design.</p> <p>It is unclear why the project was not optimised for this assessment, but the assessment indicates the project can be designed to meet, or do better than, the project specific noise levels. The project should be designed to meet, or better, the project specific noise levels, and a revised noise impact assessment should be provided following detailed design, including specific commitments and expected noise levels at receiver locations. Detailed design of the project should also minimise the need for reversing on the site.</p> <p>The assessment stated that using horns and tonal reversing alarms would be strongly discouraged, and the restrictions detailed in the Operational Noise Management Plan. Because road trucks will access the site, tonal alarms will be used at times by road trucks on the site. In addition to the</p>	<p>Section 8.2.3 of the EIS provides a review of best practice methods, including site layout, for reducing operational noise levels relative to sensitive receivers. Further consideration to best practice to be implemented for the Proposal has also been provided at Appendix K of this RtS.</p> <p>The layout selected for the Proposal (and Amended Proposal layout) is representative of best practice from a noise perspective, given site constraints for a number of reasons, outlined below.</p> <p>Firstly, the layout of the site positions the loudest noise source (the IMT facility) a maximum distance from the nearest sensitive noise receivers, thereby reducing operation noise.</p> <p>Secondly, within the IMT itself, container stacks would be located to the western side of the IMT once constructed. This would provide further shielding, albeit temporarily, from the most sensitive noise receivers in Casula.</p> <p>Thirdly, warehousing buildings servicing the MPW site are located along the western boundary of the site adjacent to the proposed IMT facility. This provides shielding of residential receivers in Casula from the loudest noise source emanating from the IMT facility during operation.</p> <p>The noise wall proposed along the western perimeter of the site is located to optimise operational efficiencies and reduce noise impacts in both calm and adverse meteorological conditions. A mitigation measure has been provided for the Proposal that the height, extent, and staged implementation of the noise wall would be confirmed, based on further noise</p>	<p>Section 8.2, 22 and Appendix N of the EIS</p> <p>Sections 7, 8 and Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>suggestions in the assessment, the EPA suggests detailed design should minimise the need for reversing at the site.</p>	<p>modelling undertaken during detailed design (refer to Section 22 of the EIS and Section 8 of the RtS).</p> <p>Efforts to reduce or minimise tonal reversing alarms is considered in Section 8.2 of the EIS. While it is noted that reversing alarms are required for safety reasons, the Proposal layout has been design in such a manner to reduce the need for vehicles to reverse where possible.</p> <p>In addition to the above, a number of amendments to the Proposal have been provided in this RtS, including a minor change to the layout of the warehousing. As discussed in Section 7 of this RtS, these amendments would not result in any impacts above those identified in the EIS.</p>	
	<p><u>Cumulative noise impacts</u></p> <p>The proponent should predict the maximum $L_{Aeq(15min)}$ operational noise contribution expected from the combination of the project and Moorebank Precinct East.</p> <p>The assessment acknowledged that sensitive receivers would see both Moorebank projects as the one facility, and compared their combined contribution to the amenity criteria at sensitive receiver locations. If the projects are likely to be viewed as one facility, the proponent should also predict the maximum intrusive contribution of the two projects in combination.</p>	<p>A cumulative noise impact assessment for the Proposal in conjunction with the MPE Stage 1 Project was provided in Section 19.4 of the EIS.</p> <p>The $L_{Aeq-15min}$, period noise levels at sensitive receivers as a result of the concurrent operation of the Proposal and the MPE Stage 1 Project have been predicted by combining the computer noise models developed for each proposal. Since the noise sources within the two sites are very similar, they are expected to have noise 'signatures' which are almost identical.</p> <p>The operational noise assessment has been conducted in general accordance with the NSW Industrial Noise Policy (INP). The INP recommends that the amenity criterion, which is based on $L_{Aeq,period}$ noise levels is used to place an upper limit on cumulative noise levels from multiple industrial sources. Accordingly, the cumulative operational noise</p>	<p>Section 19.4 and Appendix N of the EIS</p>

Aspect	Comment	Response	Reference
		<p>assessment in the NVIA is based on $L_{Aeq, period}$ noise levels and the amenity criterion.</p> <p>As identified in Section 19.4 of the EIS in Table 7-6 of Appendix N, the cumulative operational noise levels at sensitive receivers ($L_{Aeq, period}$ noise levels) are predicted to comply with the relevant amenity criteria during all times of the day. The $L_{Aeq(15min)}$ maximum noise levels are not likely to generate any additional exceedance of criteria when assessed cumulatively, given the two proposals possess a very similar 'noise signature'.</p>	
Air Quality			
General	<p>The EPA has reviewed the Air Quality Impact Assessment (AQIA) prepared for the Moorebank Precinct West Intermodal - Stage 2 of the Environmental Impact Statement (SSD16-7709) dated October 2016.</p> <p>The EPA considers that the assessment has been conducted in general accordance with the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW. The assessment predicts:</p> <ul style="list-style-type: none"> Exceedance of the annual average PM2.5 National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM) standard of $8 \mu\text{g}/\text{m}^3$ on a cumulative basis. However it is noted that the background air quality data adopted is above $8 \mu\text{g}/\text{m}^3$ and the maximum predicted incremental impact at sensitive receptors is $< 1 \mu\text{g}/\text{m}^3$ for the operational scenario assessed. 	<p>Noted and generally agreed, subject to responses below to the comment regarding <i>"issues, which must be addressed to confirm the assessment outcomes and inform robust planning decisions."</i></p>	N/A

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> No exceedances of impact assessment criteria contained in the Approved Methods for all other pollutants assessed. <p>The EPA considers that the outcomes are plausible however there are some issues, which must be addressed to confirm the assessment outcomes and inform robust planning decisions.</p>		
Inconsistency in tabulated emission inventory	Section 5.3 of the AQIA outlines the development of the emissions inventory. Table 5-9 provides a summary of the annual emissions for the proposal in tonnes/annum. There appears to be an inconsistency between units in the summary table and the previous tables (Table 5-3, Table 5-5, Table 5-6, and Table 5-8) which report emissions in kg/annum. The emissions inventory should be reviewed and confirmed. Any implications on the assessment outcomes should also be verified.	As identified in the AQIA at Appendix O of the EIS, all emissions in the report are presented as kg/annum. There is a typographical error in the caption for Table 5-9, which should read 'kg/annum' not 'tonnes/annum'. This can be cross-checked by comparing the emissions in Table 5-5 for reach stackers with the emissions in Table 5-9 for container handling (an activity which includes reach stackers only).	Appendix O of the EIS
Best management Practice	<p><u>Principles of the Best Management Practice review</u></p> <p>Appendix 7 of the AQIA provides the Best Practice Management (BMP) review report. This report identifies the guiding principles of prevention and minimisation of air pollution under the Protection of the Environment Operations (POEO) Act to inform the best practice review. However, the BMP report also highlights consideration to the dispersion modelling conducted for the proposal as a guiding principle for informing Best Management Practice. The EPA considers that best management practice should be informed by the principles of the POEO Act with consideration to practicability. Additionally, the EPA notes that:</p>	<p>To clarify the quantitative impact assessment was considered but was not the “primary” basis for implementing measures as part of the best practice provided in Section 9 and Appendix O of the EIS.</p> <p>As outlined in Section 1.2 of the AQIA (BMP report) (refer to Appendix O of the EIS), we considered the degree of environmental risk as a trigger for implementation of reasonably available techniques (RAT) or best available techniques (BAT). A key outcome for both RAT and BAT is protection of the environment, but also important is the cost of mitigation versus the environmental protection benefits provided. A cost benefit analysis was not performed as part of the BMP; however, it was assessed that there was no</p>	<p>Section 9 and Appendix O of the EIS.</p> <p>Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • there is no safe threshold for fine particulate matter; • the World Health Organization International Agency for Research on Cancer has classified diesel engine exhaust as carcinogenic to humans; and • background PM2.5 exceeds the annual average concentration contained in the National Environment Protection (Ambient Air Quality) Measure. <p>Based on these heads of consideration the quantitative (dispersion modelling) impact assessment should not be a primary basis for which to consider the measures to be implemented for the project.</p>	<p>discernible health benefit achieved through the adoption of additional mitigation or management controls, or whether any such benefit could be measured.</p> <p>As described above, the Commonwealth Government, in their Impact Statement for the variation to the AAQ NEPM, acknowledge that the overall health outcomes for a population are driven by large scale exposure to background concentrations, rather than relatively small scale exposure to higher concentrations at localised 'hot spots'³. The greatest health gains for the region will be achieved from measures that reduce this large-scale exposure, for example by reducing vehicle emissions. As PM_{2.5} is a regional pollutant, the proposed facility, which replaces freight transport by truck with freight transport by rail, has a role to play in reducing road transport emissions on a regional airshed scale thus being a positive contribution to regional health gains from large-scale exposure.</p> <p>Further to the above, SIMTA has had further consideration to the implementation of best practice for the Proposal. Appendix K of this RtS provides further information on best practice that is to be undertaken for the Proposal. As SIMTA already owns both fleet (locomotives, trucks) and equipment (reach stackers) it is not reasonable and feasible for all best practice measures to be implemented for the Proposal on day one of operations (however some will be). The approach presented in the revised Best Practice Summary (refer to Appendix K) is considered reasonable, feasible and necessary to achieve</p>	

³ Commonwealth of Australia (2014). Draft Variation to the National Environment Protection (Ambient Air Quality) Measure. Impact Statement. Prepared for National Environment Protection Council.

Aspect	Comment	Response	Reference
		long-term emissions reductions throughout the operational life of the Proposal.	
	<p><u>Commitment to measures identified for implementation</u></p> <p>Table 6-1 of the BMP report identifies upgrading the proposed existing locomotive fleet to best achievable Tier at next overhaul as reasonable / feasible. The BMP report states that "upgrades will be as per scheduled upgrade program on existing fleet and will consider best achievable emission performance in accordance with requirements under proposed Changes to the POEO (Clean Air) Regulations." The BMP report also comments that an accelerated upgrade program for existing fleet for future development stages would be considered.</p> <p>There is currently no locomotive standards within the Clean Air Regulation. The EPA advises:</p> <ul style="list-style-type: none"> • a clear commitment to an upgrade program to minimise air emissions should be provided and not deferred to a later development stage; • upgrading existing fleets to achieve US Tier O+ emission limits (as a minimum) for particles is readily achievable; and • new locomotives that meet the US Tier 3 emission standards are readily available. <p>Table 6-1 of the BMP report identifies electrification for locomotive shifting as reasonable/feasible and to be implemented. However, the BMP report comments that this measure will "be considered during procurement having regard to technical, logistical and financial considerations". The BMP report also identifies that this measure was</p>	<p>As stated in Table 6.1 of the AQIA (BPM report) for the Proposal (refer to Appendix O of the EIS), further detail regarding an upgrade program would be provided during the detailed design phase, reflected through Operational Environmental Management Plans.</p> <p>Further to the above, SIMTA has had further consideration to the implementation of best practice for the Proposal. Appendix K of this RtS provides additional information on best practice that is to be undertaken for the Proposal. As SIMTA already owns both fleet (locomotives, trucks) and equipment (reach stackers) it is not reasonable and feasible for all (however some will be) best practice measures to be implemented for the Proposal on day one of operations. The approach presented in the revised Best Practice Summary (refer to Appendix K) is considered reasonable, feasible and necessary to achieve long-term emissions reductions throughout the operational life of the Proposal.</p> <p>A commitment for the implementation of this best practice has been included as a mitigation measures in Section 8 of this RtS.</p>	<p>Appendix O of the EIS</p> <p>Section 8 and Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>adopted for the MPE Stage 1 site. The EPA considers there is a lack of clarity to the commitment for adopting this measure which has been identified as reasonable and feasible. Identical comments on the consideration of ultra-low-emitting switch locos can also be made.</p> <p>Table 6-1 of the BMP report identifies best practice international emission standards for container handling equipment and comments that new container handling would be selected to have engines that comply with US EPA Tier 3 I Euro Stage IIIA. It is not clear if the proposal will be utilising new equipment and hence would be adopting these emission standards or if existing equipment is proposed.</p> <p>Additionally, the EPA notes that the AQIA is based on the purchase of new equipment with engines that comply with US EPA Tier 3 I Euro Stage IIIA emission standards. Based on this information all container handling equipment should meet these specifications as minimum. The BMP report should also provide further discussion and evaluation of Tier 4 emission standards.</p>		
	<p><u>Identified reasonable and feasible measures not proposed for implementation</u></p> <p>Table 6-1 of the BMP report identifies electrification of container handling equipment as a reasonable and feasible measure, however it is not proposed to be implemented. The BMP report states that it is not viable for throughput less than 500,000 twenty-four equivalent unit (TEU). The EPA understands that an electrical gantry crane system for container handling was to be implemented over time for the SIMTA Intermodal Terminal Facility - Stage 1 (now referred to as Moorebank Precinct East), with an annual throughput of</p>	<p>It should be noted that gantry cranes (electric or otherwise) are at this stage not suitable for the unloading of trains for the IMT included in the Proposal. The variability and the maximum length of the trains (i.e. 1800 m) reduces the efficiency of gantry cranes and requires the use of more versatile handling equipment such as reach stackers. This is different to the MPE Stage 1 (SSD 14-6766) IMT (IMEX) which accommodates all 650 m trains and therefore the installation of gantry cranes is considered suitable for operational efficiency. Although not the</p>	<p>Appendix O (Air Quality Best Practice Review) and Appendix N (Noise Best Practice Review) of the EIS. Appendix K of this RtS</p>

Aspect	Comment	Response	Reference
	<p>250,000 TEU. Further clarity on why this identified reasonable and feasible measure is not proposed to be implemented is required.</p> <p>Table 6-1 of the BMP report identifies alternative fuels/technology for container handling equipment as feasible and reasonable but is not proposed for implementation. The BMP report states that is not considered reasonable for the proposal, based on risk based approach. Presumably the risk based approach is referring to the quantitative dispersion modelling prepared for the proposal. As advised above the quantitative modelling should not form the primary basis for not implementing reasonable and feasible mitigation measures.</p>	<p>key reason, the exclusion of gantry cranes from the MPW site would reduce the visual impacts of the Proposal.</p> <p>The Best Practice Summary information (refer to Appendix K of this RtS) identifies that hybrid diesel/electric reach stackers (subject to availability) would be purchased from the first year of operations of the Proposal to meet minimum US EPA Tier 3 / Euro Stage IIIa emissions performance. This along with other proposed best practice measures for container handling equipment and site operations is considered to reduce the noise and air emissions of the Proposal.</p>	
	<p><u>Basis for not considering measures for implementation</u></p> <p>The BMP report states there are measures that are not considered reasonable / feasible and are not proposed for implementation. The review states that some measures are not considered reasonable or feasible based on a risk based approach. Presumably the risk based approach is referring to the quantitative modelling prepared for the proposal. As advised above, the quantitative modelling should not form the primary basis for not implementing reasonable and feasible mitigation measures. Measures such as retrofit of exhaust after treatment (including for locomotives) have been identified as not reasonable and feasible based on the risk based approach.</p>	<p>To clarify the quantitative impact assessment was considered but was not the “primary” basis for implementing measures as part of the best practice provided in Section 9 and Appendix O of the EIS.</p> <p>SIMTA has had further consideration to the implementation of best practice for the Proposal. Appendix K of this RtS provides additional information on best practice that is to be undertaken for the Proposal. The approach presented in the revised Best Practice Summary (refer to Appendix K) is considered reasonable, feasible and necessary to achieve long-term emissions reductions throughout the operational life of the Proposal.</p>	<p>Section 9 and Appendix O of the EIS.</p> <p>Appendix K of this RtS.</p>

4.2 Office of Environment and Heritage

A formal submission comprising a letter (dated 1 December 2016) was received from the OEH. Several comments were provided, as summarised and responded to below.

Aspect	Comment	Response	Reference
Floodplain risk management	OEH considers that the flood risk and potential impacts from Georges River and Anzac Creek flooding have been adequately considered. A substantial portion of the proposed development will be located outside the Georges River floodplain and potential adverse flood impacts along the Georges River have been mitigated by limiting the proposed site raising to areas above the 1%AEP.	Noted.	Section 12 and Appendix R of the EIS
	The majority of the proposed filling is outside the floodplain and figure 4.1 shows proposed filling at the northern one-third of the site, which is situated above the 1% AEP but within the floodplain. The flood assessment methodology using Hydrologic Engineering Center River Analysis System (HEC RAS) hydraulic model is reasonable. Table 4.1 and figure 4.2 shows the extent of modelling and the report concludes that the flood impact from the filling and the proposal itself, for the full range of floods, is up to 0.01m. Table 4.1 also accounts for impacts upstream and downstream of the proposed site.	Noted.	Section 12 and Appendix R of the EIS
Consultation	Section 5.5 recognises the need for flood emergency response plans and suggests an evacuation and refuge plan. OEH recommends that the SES is consulted on these matters for specialist advice. During any mainstream, overland and local flooding it is important that occupiers and those responsible for the management of the site are flood aware and prepared. Flooding could occur at the site and the surrounding areas (including local roads) which could impact on the safety of people and users of the development and equipment and could	As stated in Section 5.5 of the Stormwater and Flooding Assessment Report (Appendix R of the EIS), Flood Emergency Response Plans (FERPs) would be prepared for both construction and operation of the Proposal. Mitigation measures relating to the preparation and implementation of FERPs have been provided in Section 22 of the EIS. It is agreed that, during the preparation of these documents, consultation with the SES would be	Sections 6,12, 22 and Appendix R of the EIS Section 8 of this RtS.

Aspect	Comment	Response	Reference
	<p>have serious consequences. At this stage, OEH raises no significant issues from a floodplain risk management perspective. The need to consult with the SES is however recommended for this proposal.</p>	<p>undertaken, and the outcomes of this consultation would be considered in the FERPs. The mitigation measures have been updated in Section 8 of this EIS to document the commitment to this consultation.</p>	
Biodiversity	<p>As the Department is aware, OEH provided comments on the proposed modification to the Concept Plan approval MOD 1 in relation to the importation of 1.3 million cubic metres of fill and associated impacts on biodiversity on 19 August 2016. In the comments, OEH advised that the Biodiversity Impact Assessment did not include a discussion of the proposed alterations to surface levels and the impacts of this on native vegetation. OEH recommended that the Biodiversity Impact Assessment be revised to address this issue. OEH notes that this issue has not been addressed yet.</p>	<p>The MPW Concept Modification Proposal (SSD 5066, Mod 1), albeit related to the Proposal, is subject to separate approval.</p> <p>For the purposes of the Proposal (and the Modification Proposal), native vegetation to be retained within the MPW site is limited to that within the Georges River riparian corridor/ conservation area.</p> <p>Potential impacts of the importation of additional fill (1.6 million cubic metres) and subsequent increased surface levels on this area of remaining native vegetation, that are described in Section 11.4 (Table 11-10) of the EIS include:</p> <ul style="list-style-type: none"> • Dust generated during construction (including the importation and spread of fill) may be deposited onto the foliage of adjacent native vegetation. This has potential to reduce photosynthesis, which may reduce the overall health of the vegetation adjacent to the construction area through changes to vegetation structure and composition. This impact will be mitigated through dust-management measures (prescribed by Mitigation Measure 3A in Section 22 of the EIS). • Sedimentation and erosion resulting from fill placed in proximity to retained vegetation has the potential to degrade such vegetation. This impact will be 	<p>Section 22 and Appendix Q of the EIS Appendix G of this Rts</p>

Aspect	Comment	Response	Reference
		<p>mitigated through the implementation of erosion and sediment control measures such as silt fencing and hay bales (prescribed in Mitigation Measure 4M in Section 22 of the EIS).</p> <p>We note that there is the potential for additional impacts (not discussed in the BAR provided with the EIS (Appendix Q of the EIS)) which may include:</p> <ul style="list-style-type: none"> • Alteration and reduction in surface flows during operation, due to any run-off from the (raised) MPW development footprint being directed into drainage infrastructure (pit and pipe arrangement and/or detention basins), and away from retained native vegetation. <p>These impacts are addressed in Section 8.2.1.4 of the Updated Biodiversity Assessment Report (refer to Appendix G of this RTS).</p>	
	<p>The EIS prepared for the subject Stage 2 DA outlines that the conservation zone along the Georges River would be further impacted by the removal of additional vegetation to the water's edge for the construction of basin outlets in three locations. The resulting gaps in the vegetation would range from 50 – 70 m during construction and 20-40 m following construction. The EIS notes the Moorebank Precinct West (MPW) Concept EIS assumes that the three basin outlets would require clearing of a 10 m wide gap and therefore the subject proposal requires much wider outlets and a greater extent of vegetation clearing than considered in the MPW Concept EIS.</p> <p>The proposed increase in the width of the basin outlets will result in the clearing of an addition 1.68 ha of River-flat Eucalypt Forest Endangered Ecological Community (EEC) and result in</p>	<p>The MPW Concept Approval (SSD 5066) EIS (Parsons Brinckerhoff, October 2014) identifies the need for, and assesses the impact of four drainage channels on the MPW site within the conservation area. The MPW EPBC EIS further highlights the presence of these channels and provides an assessment of the channels from both a water quality (Section 5.9.4) and a biodiversity perspective (Appendix E- Biodiversity Offset Strategy).</p> <p>In addition to this, the MPW EPBC Approval (No. 2011/6086) provided by the Commonwealth Department of Environment and Energy, included a footprint that considers the installation of these channels. The</p>	<p>Sections 3, 11, 12, 22, Appendix Q and R of the EIS.</p> <p>Sections 6, 8 and Appendix G of this RTS.</p>

Aspect	Comment	Response	Reference
	<p>fragmentation of the conservation area. The Biodiversity Assessment Report indicates that the disturbed areas would only be partially revegetated upon completion of the basin outlets.</p> <p>The NSW Biodiversity Offsets Policy for Major Projects, Principle 1 states:</p> <p><i>Before offsets are considered, impacts must first be avoided and unavoidable impacts minimised through mitigation measures. Only then should offsets be considered for the remaining impacts.</i></p> <p>OEH is of the view that the EIS has not demonstrated that all efforts have been made to design the basins outlets to avoid and minimise impacts to the conservation area. The approved MPW Concept Plan permits a significant amount of clearing of EEC vegetation from the site and this stage 2 DA seeks to increase the loss of vegetation further within the proposed conservation area. OEH recommends that further consideration be given to the design of the outlets including options to minimise the width of the outlets and fragmentation of the conservation area. The conservation area should be retained and managed for biodiversity conservation purposes, not for extensive drainage infrastructure.</p>	<p>footprint of impact identifies that vegetation removal would be required for the installation of these channels.</p> <p>For the Proposal, the 10 metre width allowed for drainage channels in the MPW Concept Approval was found to be inadequate for drainage of a catchment the size of the site without the risk of channel failure and/or significant scouring in a major rainfall event. The initial design included four OSDs, each requiring an outlet channel through the riparian zone; this was reduced to three to minimise fragmentation of the riparian vegetation and the number of fauna crossings required.</p> <p>As discussed in Section 6.6 of the EIS, and acknowledging it is not possible to avoid impacts on the Georges River riparian zone, a number of options were considered when designing the proposed drainage channels; there was a choice between numerous narrow channels and fewer wider channels. It is considered that fewer wide channels are preferable to multiple narrow channels, in order to conserve larger contiguous areas of vegetation and minimise ongoing impacts to EECs from edge effects.</p> <p>The key consideration when designing basin and outlet locations was minimising impacts to riparian vegetation, where reasonable and feasible. Every attempt was made to locate basin outlet channels in areas with minimal or highly degraded native vegetation; one is located where the existing main channel in the north of the site has catastrophically failed, resulting in major erosion and scouring and high cover of weeds including <i>Lantana camara</i> and <i>Ligustrum</i> spp. Another is</p>	

Aspect	Comment	Response	Reference
		<p>predominantly located within the Dust Bowl, which currently does not support native vegetation.</p> <p>The outlets have been designed to provide a long-term, engineered solution to the existing and proposed drainage issues in the local catchment and to prevent further impacts to the Georges River. Without the outlets, there would be a risk of major scouring and erosion of the river banks, and loss and degradation of native vegetation. This is illustrated by the existing drainage scenario on the site, with severe bank erosion and dominance by weedy exotic species at the existing main outlet. Further north, another drainage outlet was observed to have caused considerable erosion on the steep bank of the river (refer to photo 5-2 and 5-3 of the Stormwater and Flooding Assessment, Appendix R of the EIS).</p> <p>Notwithstanding the above, a review of the width of the drainage channels has been undertaken as part of the Proposal Amendments (refer to Section 6 of this RtS). The design of the channels has been reassessed with a view to reducing the footprint, and therefore clearing required. Riparian vegetation to be impacted at the three basin outlets (1.49 hectares) and covered drain (0.07 hectares) total 1.56 hectares of Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin. This compares to the removal of 1.67 hectares of this riparian vegetation identified in the EIS.</p> <p>The design of the northern channel has been refined to reduce vegetation clearing, and a maintenance access road has been removed from the central channel to</p>	

Aspect	Comment	Response	Reference
		<p>reduce its width (refer to Appendix H of this RtS). The changing of widths to these two channels has resulted in a reduction in vegetation clearance at these areas (refer to the Updated BAR provided in Appendix G of this RtS)</p> <p>As noted above, the initial four OSDs under the MPW Concept Approval, have been reduced to three to minimise fragmentation of the riparian vegetation and the basin outlets have been located in areas already disturbed, with high abundance and cover of exotic species including invasive weedy species. The areas to be disturbed for the channels would be re-contoured and partially revegetated upon completion of the basin outlets to enable habitat connectivity. It would not be possible to revegetate the entire area, as there would be rock-filled gabion boxes in the centre of the outlet and maintenance access is required in the event of any damage to the outlet, to prevent potential impacts from scouring to the adjacent conserved areas.</p> <p>It is envisaged that as a result of the works to refine the design and reduce the number of outlets and their width, the permanent impacts would be unlikely to significantly impede fauna movement provided that connectivity is enhanced using strategic revegetation and other fauna habitat features, such as rocks, to provide cover in these areas.</p> <p>In addition to this, the amendments to the Proposal include the installation of a drain within an area of the conservation area that has been previously cleared. This area is currently used as an easement for Endeavour Energy. This covered drain would require</p>	

Aspect	Comment	Response	Reference
		<p>clearance of 0.07 ha of native vegetation (River-flat Eucalypt Forest on Coastal Floodplains EEC). The drain would be relatively narrow and would not result in additional impacts to fauna connectivity.</p> <p>An assessment of the impacts of this covered drain on biodiversity values has been provided in the Updated BAR (Appendix G of this RtS).</p> <p>Overall, the approach provided for the Amended Proposal is considered suitable and acceptable in the context of the potential environmental issues associated with not installing the channels, channel failure and/or significant scouring in a major rainfall event. Mitigation measures to be implemented are detailed in Section 8 of this RtS.</p>	
	<p>The EIS also states that "the riparian corridor outside of basin outlet would be maintained as a biodiversity conservation area, and would range in width from approximately 35m to 290m".</p> <p>Condition of Approval E16 for the MPW Concept approval requires all DAs include a minimum 40m wide riparian corridor along the terminal site. The proposed 35m wide riparian corridor does not satisfy condition E16.</p>	<p>The riparian corridor is approximately 40 metres wide at its narrowest point at a single location between the northern boundary of the riparian corridor and the northern-most basin outlet. The rest of the 2.1 km long riparian corridor is greater than 50 metres wide, and is up to 290 metres wide in some locations.</p> <p>An earlier measurement of 35 metres was taken from the edge of the Proposal site and the property boundary (which is generally defined by the Georges River). Review of the property boundary over the aerial photograph indicates that the landform appears to extend beyond the property boundary (refer to Appendix G), and the width of the corridor in this location (as measured using GIS) is approximately 40 metres in width.</p>	<p>Section 11 and Appendix Q of the EIS.</p>

Aspect	Comment	Response	Reference
		<p>In this context, it is considered that the requirements of condition E16 of the MPW Concept Approval would be satisfied.</p> <p>It is also noted that at this narrowest point, vegetation is already cleared to within approximately 30 metres of the river's edge, and the Proposal will not clear any native vegetation that is currently within 40 metres of the Georges River.</p>	
	<p>OEH has not undertaken a detailed review of the FBA, however has noted the following:</p> <p>in Table 6.9 the benchmarks for MEOOS have incorrectly been used for ME018,</p> <p>it is unclear why Q31 and Q37 have been included in ME018 Moderate/Good-Medium when the scores for these quadrats suggest the condition is more similar to the results from Q39 i.e. ME018 Moderate/Good-Poor than the results of Q03, and it is unclear why a separate FBA calculation was run for the additional impacts from the stormwater basin outlets, rather than combining all impacts under the one calculation. Separating them may have affected the credit requirement outcome, for example the combined impact may have resulted in a native vegetation extent increment being crossed.</p>	<p>Noted – the benchmarks have been incorrectly entered for this table. The benchmarks for ME018 were used in the actual calculation. This has been updated in the Updated BAR (refer to Appendix G of this RtS).</p> <p>The quadrats used to calculate site value of areas of additional impact were selected due to their proximity to the areas of impact. The differences in the scores are noted and this information has been taken into account when updating the BAR (refer to Appendix G of this RtS). No new quadrats were sampled for the FBA calculation in the Updated BAR; the quadrats used previously were reviewed to ensure that they are representative of site values for each vegetation condition class.</p> <p>A separate FBA calculation was undertaken in the BAR submitted with the EIS, given that the assessment undertaken for the MPW Concept Approval was considered to be comprehensive, and the additional areas are largely located in the riparian zone within 50 metres of the Georges River, and therefore fall within an area considered to be a state significant biodiversity link under the FBA. This results in a different landscape</p>	<p>Appendix Q of the EIS. Appendix G of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>On a specific matter, the EIS (page 161) states that in regard to the impacts of the outlet channels</p> <p>"the design has been discussed with OEH and DoEE, both of which seem to support the approach to protection of the conservation area and the location of the OSDs or drainage channels". To clarify, OEH advises that the proposed amended OSD and channel design has not been discussed with OEH and OEH has not given support to the location of the drainage channels in the conservation area. OEH has consistently advised that infrastructure should not be located within the conservation area including in correspondence dated 5 December 2014:</p> <p><i>As advised in previous correspondence dated 17 May 2013 and 11 September 2014, the offset areas should be afforded the highest level of zoning protection. OEH recommends the use of E2 Environmental Conservation for offsets areas as this zone contains the most appropriate objectives and permitted uses to provide for the retention of the conservation values. It is noted that the applicant proposes that the offset area be zoned E3 Environmental Management in order to permit drainage infrastructure. OEH is strongly of the view that an offset area should be for the conservation and management of the conservation values, not for infrastructure associated with the development.</i></p> <p>Therefore, OEH requires that the statement on page 161 be removed from the EIS.</p>	<p>score for those areas. The landscape assessment has been reviewed when updating the BAR (refer to Appendix G of this RtS).</p> <p>As discussed in Section 6 of the EIS, OEH was consulted in June 2016 (via a telephone conversation) and August 2016 (via a letter). It is acknowledged that the statement on page 161 of the EIS was incorrect.</p> <p>It is noted that OEH is of the view that the offset area should be for the conservation and management of the conservation values, not for infrastructure associated with the development, and that OEH did not give support to the drainage channel locations.</p> <p>As discussed above, based on the potential impacts posed from not developing the channels, the reduction in vegetation clearance achieved in the amendments to the Proposal and mitigation measures for the Amended Proposal, the installation of these channels within the conservation area is considered necessary and the most appropriate environmental outcome.</p>	<p>Section 6 of the EIS. Section 6 of this RtS.</p>

4.3 Transport for NSW

A formal submission comprising a letter (dated 10 June 2017) was received from TfNSW. Several comments were provided, as summarised and responded to below.

Aspect	Issue	Response	Reference
Letter			
Conditional support	<p>TfNSW provides conditional support for the following:</p> <ul style="list-style-type: none"> • The MPW Concept Modification RtS progressing to the PAC for consideration • The MPE Concept Plan Modification 2 progressing to the PAC for consideration • A deferred commencement consent for any approval granted for the MPE Stage 2 Proposal or MPW Stage 2 Proposal requiring an agreement for State Road Network mitigation for ultimate concept plan development, prior to Stage 2 construction. 	<p>TfNSW conditional support for the progression of the MPW Concept Modification RtS is noted.</p> <p>However, a deferred commencement consent for the MPW Stage 2 Proposal is deemed unnecessary as there is considered to be adequate information provided within the EIS to allow for the assessment of the MPW Stage 2 Proposal. In addition, Condition E13(b) (Conditions of Approval Document SSD 5066) includes a commitment of the proponent to pay developer contributions to the relevant consent authority or undertake works-in-kind toward the provision or improvement of public amenities and services, which may be subject to the terms of any applicable Voluntary Planning Agreement (VPA).</p> <p>An agreement would be made separately in consultation with Roads and Maritime Services regarding any State Road Network mitigation required based on the Precinct model once it is available.</p>	<p>Conditions of Approval Document SSD 5066</p>

Aspect	Issue	Response	Reference
Annexure A			
Network impacts	<p>The traffic study documented in the proponent's Stage 2 OTTIA found that the broader road network in the study area would need to be upgraded to cater for the forecast traffic increases from the proposed development and general background growth. Despite this, the proponent is not proposing any mitigation works beyond those along Moorebank Avenue, referring to the broader contributions being determined once the ultimate development cumulative assessment is completed.</p>	<p>The MPW Stage 2 EIS identifies that the Moorebank Avenue/Anzac Road intersection would require improvements as a result of the Proposal and general growth in background traffic, therefore recommended upgrades to this intersection are included as a mitigation measure for the operation of the Proposal (refer Section 7.5.2 and 22 of the EIS).</p> <p>Additional intersections are also identified in Section 7.6 of the EIS that would operate at an unsatisfactory level of service without the Proposal (i.e. resulting from growth in background traffic). These intersections include:</p> <ul style="list-style-type: none"> • M5 Motorway/Moorebank Avenue • M5 Motorway/Hume Highway • Moorebank Avenue/Newbridge Road • Moorebank Avenue/Heathcote Road • M5 Motorway/Heathcote Road • Cambridge Avenue/Glenfield Road • Cambridge Avenue/Canterbury Road. <p>Recommended improvements to these intersections are suggested, however as these intersections would operate unsatisfactorily regardless of the Proposal, these improvements are not included as mitigation measures for the Proposal.</p>	<p>Section 7.5.2, 7.6 and 22 of the EIS.</p>

Aspect	Issue	Response	Reference
Annexure B			
Trip generation	The proponent shall provide a simplified table, detailing the key assumptions for each stage along with likely accumulative trip generation. The figures should take into account and include an updated delivery schedule, aligned with the trip generation numbers.	A table, detailing the trip generation (daily and peak) for the construction and operation of the Proposal as well as the key operational trip generation assumptions used is provided in Appendix C of this RtS.	Appendix C of this RtS.
Traffic generation	The proponent shall provide information regarding the likely daily and peak hour movements generated by the construction and operational stages of the proposed development.	As detailed in Appendix C of the RtS, the Proposal would generate 2,670 light vehicle trips and 1,458 heavy vehicle trips per day during operation. During the AM peak, the Proposal would generate no light vehicle trips per hour and 112 heavy vehicle trips per hour. During the PM peak, the Proposal would generate 180 light vehicle trips per hour and 112 heavy vehicle trips per hour.	Appendix C of this RtS.
Traffic Generation	The traffic generation does not include the proposed 8,000sqm of retail, commercial and light industrial uses on the site. Further information is needed regarding the traffic generation of all proposed land uses.	Supplementary issue raised not relevant to the MPW Stage 2 Proposal. It should be noted that the MPW Stage 2 traffic assessment considered traffic generation from retail, commercial and light industrial uses on the Proposal site, based on previous studies undertaken for the MPW Concept by Parsons Brinkerhoff (PB) (refer to Appendix C of the MPW Stage 2 Operational Traffic and Transport Impact Assessment (OTTIA), Appendix M of the EIS).	Appendix C of the OTTIA at Appendix M of the EIS.
Cumulative traffic impacts	It is not clear whether the proponent has considered the cumulative impacts associated with other planned and approved developments within the Precinct.	It is acknowledged that there are a number of other Development Applications (DAs) within the Moorebank Precinct, within and immediately adjacent to the MPE site, including: <ul style="list-style-type: none"> DA 1079-2016: Display suite - The construction and operation of a display suite, including café, signage and parking for 24 cars. 	N/A

Aspect	Issue	Response	Reference
		<ul style="list-style-type: none"> • DA 1264-2015 (as modified): Buildings 53 and 54 (Cluster 1) - The alteration of existing warehouses for a future end-user. • DA 352-2016 and DA 984-2016: Buildings 49-52 (Cluster 2) - The alteration of existing warehouses for a future end-user. Note that DA 352-2016 was for the construction of the development, and DA 984-2016 is for the use of the development. • DA 557-2016: Building 82 - Alterations and additions to an existing building and change of use to a warehouse and distribution centre. • DA subject to determination - Building 7 and 68 - The alteration of existing warehouses for a future end-user. <p>DA 1079-2016: Display suite</p> <p>The proposed development is intended to be used for a period of approximately five to ten years. It is anticipated for this development to generate 22 additional vehicles during the AM peak and 11 additional vehicles during the PM peak.</p> <p>The assessment of operational traffic impacts associated with this development noted that the operation of the display suite would have no material impact on the operation of the local area network with all intersections in the locality continuing to operate with similar delays and levels of service as currently occurs.</p> <p>As such, no adverse cumulative impacts are anticipated to result from the operation of the proposed development concurrently with the construction of the MPW Stage 2 and MPE Stage 2 Proposals.</p>	

Aspect	Issue	Response	Reference
		<p>DA 1264-2015 (as modified): Buildings 53 and 54, DA 352-2016 & DA 984-2016: Building 49-52, DA 557-2016: Building 82, undetermined DA: Buildings 7 and 68</p> <p>These developments would generate the following additional vehicles:</p> <ul style="list-style-type: none"> • DA 1264-2015: <ul style="list-style-type: none"> – 91 additional vehicles during the AM peak and 91 additional vehicles during the PM peak • DA 352-2016 and DA 984-2016: <ul style="list-style-type: none"> – 55 additional vehicles during the AM peak and 41 additional vehicles during the PM peak • DA 557-2016: <ul style="list-style-type: none"> – 18 additional vehicles during the AM peak and 14 additional vehicles during the PM peak • Undetermined DA: <ul style="list-style-type: none"> – 26 additional vehicles during the AM peak and 19 additional vehicles during the PM peak. <p>The environmental assessments undertaken for these developments concluded that there would be adequate existing access, internal road network and hard stand areas available on the site for operations. Additional the abovementioned developments were assessed as having no material impact on the surrounding network compared with that associated with the historic use of the site.</p> <p>As such, no adverse cumulative impacts are anticipated to result from the operation of the proposed developments concurrently with the construction of the MPW Stage 2 and MPE Stage 2 Proposals.</p>	

Aspect	Issue	Response	Reference
		<p>MPE and MPW Projects</p> <p>The MPE Concept Plan Approval (MP 10_0193) (approved on 29 September 2014) included a detailed cumulative traffic impact assessment of the MPE Project and the MPW Project. At the time of the preparation of this cumulative traffic impact assessment an EIS had not been lodged for the MPW Project and, therefore, this impact assessment was based on publicly available information. Notwithstanding this, the traffic assessment was adequate and appropriate to both assess, and mitigate, the impacts of the MPE Project in consideration of the impacts identified for the MPW Project.</p> <p>Conversely, the MPW Concept Approval (SSD 5066) included a detailed cumulative traffic impact assessment of the MPW Project and the MPE Project. The MPW Concept Approval (approved on 3 June 2016) was granted subsequent to the MPE Concept Plan Approval and, therefore, additional information was available for the cumulative assessment of both Projects. In particular, Cumulative Scenario A within the MPW Concept Rts provides an assessment which is generally consistent with the current projects, namely 1.55 million TEU through put per annum for two intermodal terminals and 600,000sqm of warehousing for the precinct. The MPW Concept Approval, like the MPE Concept Plan Approval, included measures to mitigate the MPW Project both in isolation and in consideration of the previously approved MPE Project.</p> <p>As a result of the detailed cumulative assessments, and based on discussions with government agencies, the approach for each stage (i.e. SSD Application) for the development for Moorebank Precinct (both MPE and MPW Projects) has been to provide a detailed cumulative assessment for the stage of development for which approval has been sought and any other stages of development that are known to have the potential to be immediately operational (or under construction) at the time of opening (commencement of operations) of that project. This approach considers the proposed development and any neighbouring development (Moorebank Precinct or otherwise) that</p>	

Aspect	Issue	Response	Reference
		<p>has suitable design and operational details to provide an informed cumulative impact assessment.</p> <p>To be consistent with the established approach, the MPE Stage 1 Project (approval granted on 12 December 2016) provided a cumulative traffic impact assessment for both the MPE Stage 1 Project full operations and MPW Stage 1 (Early Works) during construction. This assessment was consistent with and built on the MPE Concept Plan Approval cumulative traffic impact assessment, based on detailed design that had been undertaken for both projects subsequent to the approval of the Concept Plan/Concept. The MPE Stage 1 Project provided mitigation measures based on the Concept Plan/Concept to addresses and manage traffic impacts.</p> <p>To continue the above-mentioned approach, the MPE Stage 2 Proposal and the MPW Stage 2 Proposal have both provided individual cumulative traffic impact assessments based on further design and understanding of the operations (and construction timeframe) of the Moorebank Precinct. The MPW Stage 2 Proposal was prepared prior to the design or clarification of operational understanding of the MPE Stage 2 Proposal and, therefore, provides an operational cumulative assessment in consideration of the MPE Stage 1 Project at full operations. The MPE Stage 2 Proposal, furthers this assessment and provides an operational cumulative assessment in consideration of both the MPE Stage 1 Project (full operations) and the MPW Stage 2 Proposal (full operations). The proposals separately include mitigation measures that consider the impact of the individual projects and other projects likely to operate reflective of the available information at the time of preparation. As a result, both the MPE Stage 2 and MPW Stage 2 Proposals have provided adequate and suitable cumulative traffic impact assessments with associated mitigation measures (including upgrades and road network improvements), which would facilitate the traffic to be generated by these proposals.</p>	

Aspect	Issue	Response	Reference
		<p>The Moorebank Precinct model would provide further assessment and consideration of the cumulative traffic impact reflective of both the information in the MPE Concept Plan Approval and MPW Concept Approval and other potential development proposed for the Moorebank Precinct. As a detailed cumulative traffic impact assessments and associated mitigation measures have been previously provided for the purposes of the MPE and MPW Concept Plan Approvals and periodically for the staged applications, the Moorebank Precinct model is not considered to be required to process the MPE Stage 2 and MPW Stage 2 Proposals. In particular, the Moorebank Precinct model includes elements which albeit relevant to the 'Full + additional build' have already been assessed as part of previous MPE and MPW Concept Plan Approvals. Further information relating to these cumulative assessments is provided in the table attached to Appendix K of this RtS.</p>	
SIDRA Modelling	SIDRA traffic modelling undertaken for MPE Stage 2 is not consistent with the modelling undertaken for the MPW Stage 2 development application and should be updated accordingly.	<p>In response to issues raised by Liverpool City Council in its submission on the MPW Concept Modification (refer to Appendix B of the MPW Concept Plan Modification Supplementary Response to Submissions Report), the SIDRA analysis undertaken as part of the MPW Stage 2 Proposal was revised in accordance with <i>Roads and Maritime Services (Roads and Maritime) Traffic Modelling Guidelines (version 1.0, February 2013)</i>. The updated results were included in the MPW Stage 2 Revised Construction Traffic Impact Assessment (revised CTIA) (refer to Appendix C of the MPW Stage 2 Response to Submissions Report).</p> <p>As part of the MPE Stage 2 Response to Submissions Report, the SIDRA analysis included in the EIS construction traffic impact assessment (CTIA) was revised (refer to Appendix K of the MPE Stage 2 EIS), consistent with the updates made to the MPW Stage 2 SIDRA analysis. The revised SIDRA results are included in Section 7.1 of the RtS, and the revised SIDRA traffic movement diagrams are included in Appendix C of the RtS.</p>	<p>Appendix B of the MPW Concept Plan Modification Supplementary Response to Submissions Report.</p> <p>Section 7 and Appendix M of the EIS.</p> <p>Section 7.1 and Appendix C of the RtS.</p>

Aspect	Issue	Response	Reference
		As a result, the SIDRA modelling and analysis undertaken for the MPW Stage 2 and MPE Stage 2 Proposals are consistent.	
Intersection LoS	The submitted documentation suggests the Level of Service (LoS) of intersections is predicted to perform better for the “with development” scenarios than the “without development” scenarios. It is not clear how this is derived and is counterintuitive. What road upgrades have been included, along with traffic signal phasing and operations priority to achieve this outcome.	Supplementary issue raised not relevant to the MPW Stage 2 Proposal.	N/A
Traffic signal improvements	It is not clear what changes have been proposed to “improve signals” operation within the submitted traffic modelling. RMS will not support reducing green time on arterial approaches to an intersection.	Supplementary issue raised not relevant to the MPW Stage 2 Proposal.	N/A
M5 Weave	It is not clear whether the SIDRA modelling has accounted for the M5 weave issues, and should be clarified by the proponent’s traffic consultant.	The SIDRA analysis undertaken for the assessment of construction traffic impacts of the Proposal (refer to Appendix M of the EIS) did not account for the M5 weave issues as the SIDRA software package was not appropriate to be used for investigation of highway weaving. The modelling for weaving normally is undertaken using microsimulation modelling which simulates <i>“the movement of individual vehicles based on car-following, lane changing and gap acceptance algorithms that are updated several times every second.”</i> (Roads and Maritime Services Traffic Modelling Guidelines, 2013).	Section 7 and Appendix M of the EIS. Section 7.1 and Appendix C of the RtS.

Aspect	Issue	Response	Reference
		<p>In the assessment of the operational traffic impacts of the MPW Stage 2 and MPE Stage 2 Proposals (refer to Appendix M of the EIS, Section 7.1 and Appendix C of the RtS), AIMSUN modelling undertaken included consideration of the weaving of vehicles on the M5 Motorway due to the inclusion of microsimulation pockets within the model.</p> <p>AIMSUN modelling conducted for the Proposal considered the potential vehicular conflict and delays associated with weaving and merging of traffic at the M5 interchange. In assessing weaving impacts the AIMSUN model examines driver behaviour, vehicle acceleration and deceleration characteristics and the road geometry. It was noted in the OTTIA prepared for Proposal that this weaving issue is not something that is directly related to the presence of the project and is a broader existing road network issue affected by background traffic growth.</p>	
Construction and operational site access	Details of the proposed accesses for the construction and operational stages have not been provided. It is not clear whether the accesses comply with relevant Australian Standards (ie vehicle swept paths, geometry, sight lines, pedestrian safety, aisle widths, etc).	<p><u>Construction site accesses</u></p> <p>Access to the MPW Stage 2 site during construction would be via the Moorebank Avenue intersection with Chatham Avenue and an additional western or 4th leg of the Moorebank Avenue intersection with Anzac Road.</p> <p>The construction site accesses for the Proposal will be subject to detailed design development. As part of detailed design, the relevant Australian Standards relating to site access will be considered, including Austroads design guides and Roads and Maritime's supplements to Austroads guides.</p> <p><u>Operational site accesses</u></p> <p>As part of the MPW Stage 2 RtS, Revised Stormwater and Drainage Design Drawings have been included at Appendix H of the MPW Stage 2 RtS, which include a swept path analysis of the operational layout of the following intersections:</p>	Appendix H of the RtS.

Aspect	Issue	Response	Reference
		<ul style="list-style-type: none"> • Anzac Road / Moorebank Avenue • Chatham Avenue / Moorebank Avenue • Bapaume Road / Moorebank Avenue. <p>In addition, a road safety audit for the MPW Stage 2 Proposal will be undertaken as part of detailed design development, which will consider pedestrian safety and sight lines.</p> <p>The geometry, aisle widths and further information pertaining to the operational layout of these intersections will be considered as part of further detailed design development and will consider the relevant Australian Standards relating to site access will be considered, including Austroads design guides and Roads and Maritime's supplements to Austroads guides.</p>	
Construction and operational site access	It is not clear how the proposed vehicular and pedestrian accesses for the other development applications will conflict with pedestrian and vehicle movements from this development proposal.	<p>The cumulative construction traffic impact assessment for the MPE Stage 2 Proposal, as detailed in Section 19 of the EIS, considered peak construction of the MPW Stage 2 Proposal being undertaken concurrently with construction of MPW Early Works and the MPE Stage 1 Project.</p> <p>The cumulative operational traffic impact assessment for the MPE Stage 2 Proposal as detailed in Section 19 of the EIS considered the concurrent operation of the MPW Stage 2 Proposal with operation of the MPE Stage 1 Project.</p> <p>It is acknowledged that in addition to the cumulative scenarios detailed above, there are a number of other Development Applications (DAs) across the Moorebank Precinct, including the following, all of which are located within the MPE site:</p> <ul style="list-style-type: none"> • DA 1079-2016: Display suite - The construction and operation of a display suite, including café, signage and parking for 24 cars. 	<p>Section 19 of the EIS.</p> <p>N/A</p>

Aspect	Issue	Response	Reference
		<ul style="list-style-type: none"> • DA 1264-2015 (as modified): Buildings 53 and 54 (Cluster 1) - The alteration of existing warehouses for a future end-user. • DA 352-2016 & DA 984-2016: Building 49-52 (Cluster 2) - The alteration of existing warehouses for a future end-user. Note that DA 352-2016 was for the construction of the development, and DA 984-2016 is for the use of the development. • DA 557-2016: Building 82 - Alterations and additions to an existing building and change of use to a warehouse and distribution centre. <p>Pedestrian access to the abovementioned developments would not interact with pedestrian access to, from and within the MPW Stage 2 site and no conflicts are expected to arise.</p> <p>It is not expected that there would be any conflicts with pedestrian and vehicular access to the MPW Stage 2 site between the abovementioned development applications and the Proposal.</p> <p>The environmental assessments undertaken for the abovementioned developments concluded that there would be <i>'no material impact on the operation of the local area network with all intersections in the locality continuing to operate with similar delays and levels of service as currently occurs'</i></p> <p>Pedestrian and vehicular access to and from the MPE site for the abovementioned development applications and the Proposal would be managed with the implementation of the Construction Traffic Management Plan (CTMP) and Operational Traffic Management Plan (OTMP) for the Proposal, where relevant.</p>	

Aspect	Issue	Response	Reference
Service vehicle movements	Details of service vehicle movements and access arrangements should be provided.	<p>Service vehicles would access and egress the Proposal site via the Anzac Road / Moorebank Avenue intersection and travel within the Proposal site via the internal road network (refer to the revised architectural drawings at Appendix B for more information regarding the intersection layout and internal road network layout).</p> <p>Both the Anzac Road / Moorebank Avenue intersection and internal road network has been designed to accommodate A-doubles. As service vehicles would be smaller than an A-double, adequate turning provisions will exist for service vehicles throughout the Proposal site. Site access arrangements that would apply to service vehicles are described in Section 5.4 of the OTTIA.</p> <p>At the time of writing the EIS and the MPW Stage 2 RtS, the type of service vehicles, and their likely arrival and departure times were unknown, as service contractors have not yet been engaged for the operation of the Proposal. As a result, the service vehicle types to be used are currently unknown. The likely arrival and departure times of service vehicles at the time of writing is therefore unknown, and would be dependent on the service contractors, once identified.</p> <p>Where possible, service vehicle movements to, from and within the Proposal site would be undertaken outside of the AM and PM peak periods. It is expected that once available, further details regarding the service vehicle type(s), and arrival and departure times of service vehicles accessing and egressing the Proposal would be incorporated into the Operational Environmental Management Plan (OEMP) and Operational Traffic Management Plan (OTMP) for the Proposal.</p>	Section 5.4 of the OTTIA at Appendix M of the EIS.

Aspect	Issue	Response	Reference
Vehicle accidents	<p>The submitted documentation states that vehicle accidents are likely to increase as a result of the proposed development. It is not clear how this was determined and what mitigation measures will be implemented to improve road and pedestrian safety on the surrounding network, particularly within the intermodal site.</p>	<p>The calculation of predicted crash rates with the Proposal for the EIS was undertaken by:</p> <ul style="list-style-type: none"> • Determining the average number of crashes per year based on existing conditions • Multiplying the average crash rate by the percentage increase in traffic volumes as a result of the proposal to upscale the existing crash rate from existing (without Proposal) to future (with Proposal). <p>The ‘with development’ scenarios included in the assessment of operational traffic impacts as part of the MPE Stage 2 EIS and MPW Stage 2 EIS included network upgrades which are recommended to minimise the impacts of background traffic growth and traffic from the cumulative operation of the Proposals. The proposed network upgrades and the indicative timing for these upgrades are described in more detail in Section 7.6 and Appendix M of the MPW Stage 2 EIS.</p> <p>The upgrades included in the MPE Stage 2 EIS and MPW Stage 2 EIS would result in Moorebank Avenue being upgraded to the current Roads and Maritime road design standards and will improve overall safety for road users and pedestrian/ cyclists within the Moorebank Precinct.</p> <p>Measures to avoid, minimise and mitigate impacts to road safety for vehicle users, pedestrians and cyclists during construction and operation of the MPE Stage 2 and MPW Stage 2 Proposals will be managed with the implementation of final Construction Traffic Management Plans (CTMPs) and Operational Traffic Management Plans (OTMPs) for the MPW Stage 2 and MPE Stage 2 Proposals.</p>	

Aspect	Issue	Response	Reference
Moorebank Avenue Upgrade	Further details regarding the proposed change in level of Moorebank Avenue by up to 2 metres is required, including but not limited to; verge treatment, hydrology and stormwater management, service impacts, boundary levels and tie-ins.	The Moorebank Avenue Upgrade does not form part of the MPW Stage 2 Proposal.	N/A
Moorebank Avenue construction staging	Staging plans demonstrating how 2 lanes of traffic will be maintained along Moorebank Avenue, whilst the road is raised by 2 metres.	The Moorebank Avenue Upgrade does not form part of the MPW Stage 2 Proposal.	N/A
Realignment of Moorebank Avenue	The proponent is to provide information on the status of the proposed realignment of Moorebank Avenue, which could have significant impacts on the proposed function of the road and access to the site.	The realignment of Moorebank Avenue does not form part of the Proposal. Should this realignment be undertaken, the associated environmental approval documentation would include an assessment of a cumulative impacts regarding the MPW Stage 2 or MPE Stage 2 Proposals. The specific timing for the realignment of Moorebank Avenue has yet to be determined.	N/A

4.4 Department of Primary Industry

A formal submission comprising a letter (dated 14 December 2016) was received from the DPI. Several comments were provided, as summarised and responded to below.

Aspect	Comment	Response	Reference
Riparian and associated management	The proponent should provide a scaled plan that details the section of channel where the channel failure and scouring has occurred and proposed rehabilitation measures.	<p>A detailed description of the channel failure and site photos are provided in Section 5.1 of the Stormwater and Drainage Assessment Report (Refer to Appendix R of the EIS).</p> <p>As discussed in Section 4 of the EIS, a channel would be installed at this location replacing the existing channel, including the failed areas (refer to Appendix R of the EIS). This channel would bypass Basin 5 and then drain via a proposal channel outlet into the Georges River. The Revised Landscape Design Statement and Plans (refer to Appendix B of this RtS) and the Revised Stormwater and Drainage Design Drawings (refer to Appendix H of this RtS) provide further design details for the channel and the scour protection for this outlet.</p>	<p>Section 4 and Appendix R of the EIS.</p> <p>Appendix B and H of this RtS</p>
	The proponent should relocate native plants from areas that are to be permanently cleared into the riparian and conservation area identified for rehabilitation.	<p>Measures to be implemented to minimise impacts on biodiversity have been provided in Section 11.5 of the EIS. In particular, two mitigation measures pertaining to the conservation of genetic material from local native plant communities were prescribed, specifically:</p> <ul style="list-style-type: none"> • Collecting topsoil (and seedbank) from native vegetation that are to be permanently cleared and using this material in the revegetation of riparian areas • Relocating and transplanting native plants from areas that are to be permanently cleared to riparian areas identified for rehabilitation, where feasible and reasonable. 	Section 11.5 of the EIS

Aspect	Comment	Response	Reference
	<p>The minimum riparian buffer zone width for the project should be 40m in accordance with Condition E16 of the Approval for the Moorebank Precinct West (MPW) concept plan.</p>	<p>The riparian corridor is approximately 40 metres wide at its narrowest point at a single location between the northern boundary of the riparian corridor and the northern-most basin outlet. The rest of the 2.1 km long riparian corridor is greater than 50 metres wide, and is up to 290 metres wide in some locations.</p> <p>An earlier measurement of 35 metres was taken from the edge of the Proposal site and the property boundary (which is generally defined by the Georges River). Review of the property boundary over the aerial photograph indicates that the landform appears to extend beyond the property boundary (refer to Appendix G), and the width of the corridor in this location (as measured using GIS) is approximately 40 metres in width.</p> <p>In this context, it is considered that the requirements of condition E16 of the MPW Concept Approval would be satisfied.</p> <p>It is also noted that at this narrowest point, vegetation is already cleared to within approximately 30 metres of the river's edge, and the Proposal will not clear any native vegetation that is currently within 40 metres of the Georges River.</p>	<p>Section 11, Appendix Q of the EIS</p> <p>Section G of this RtS</p>
	<p>Table 9.1 should be amended to include the monitoring and maintenance of the riparian corridor/conservation area that are re-vegetated and rehabilitated (page 93)</p>	<p>A number of mitigation measures (No. 4R, 4S and 4U) include monitoring of the riparian corridor and Georges River during both construction and operation of the Proposal (refer to Section 22 of the EIS). These mitigation measures commit to monitoring, by a suitably qualified bush regenerator or ecologist. These mitigation measures are also included with the mitigation measures at Section 8 of this RtS.</p>	<p>Section 22 of the EIS</p> <p>Section 8 of this RtS</p>
<p>Stormwater and flooding</p>	<p>The proponent should provide further detail and justification of the width of drainage channel outlets to be used during construction. The proponent should investigate and advise whether other options are available to minimise the outlet width and the potential impacts on the riverbank profile and riparian connectivity.</p>	<p>The MPW Concept Approval (SSD 5066) EIS (Parsons Brinckerhoff, October 2014) identifies the need for, and assesses the impact of four drainage channels on the MPW site within the conservation area. The MPW EPBC EIS further highlights the presence of these channels and provides an assessment of the channels from both a water quality (Section 5.9.4) and a biodiversity perspective (Appendix E- Biodiversity Offset Strategy).</p>	<p>Sections 6, 11, 12, 22, Appendix Q and R of the EIS.</p> <p>Sections 6, 8 and Appendix</p>

Aspect	Comment	Response	Reference
		<p>In addition to this, the MPW EPBC Approval (No. 2011/6086) provided by the Commonwealth Department of Environment and Energy, included a footprint that considers the installation of these channels. The footprint of impact identifies that vegetation removal would be required for the installation of these channels.</p> <p>For the Proposal, the 10 metre width allowed for drainage channels in the MPW Concept Approval was found to be inadequate for drainage of a catchment the size of the site without the risk of channel failure and/or significant scouring in a major rainfall event. The initial design included four OSDs, each requiring an outlet channel through the riparian zone; this was reduced to three to minimise fragmentation of the riparian vegetation and the number of fauna crossings required.</p> <p>As discussed in Section 6.6 of the EIS, and acknowledging it is not possible to avoid impacts on the Georges River riparian zone, a number of options were considered when designing the proposed drainage channels; there was a choice between numerous narrow channels and fewer wider channels. It is considered that fewer wide channels are preferable to multiple narrow channels, in order to conserve larger contiguous areas of vegetation and minimise ongoing impacts to EECs from edge effects.</p> <p>The key consideration when designing basin and outlet locations was minimising impacts to riparian vegetation, where reasonable and feasible. Every attempt was made to locate basin outlet channels in areas with minimal or highly degraded native vegetation; one is located where the existing main channel in the north of the site has catastrophically failed, resulting in major erosion and scouring and high cover of weeds including <i>Lantana camara</i> and <i>Ligustrum spp.</i> Another is predominantly located within the Dust Bowl, which currently does not support native vegetation.</p> <p>The outlets have been designed to provide a long-term, engineered solution to the existing and proposed drainage issues in the local catchment and to prevent further impacts to the Georges River. Without the outlets, there would be a risk of major scouring and erosion of the river banks, and loss and</p>	<p>G and H of this RTS.</p>

Aspect	Comment	Response	Reference
		<p>degradation of native vegetation. This is illustrated by the existing drainage scenario on the site, with severe bank erosion and dominance by weedy exotic species at the existing main outlet. Further north, another drainage outlet was observed to have caused considerable erosion on the steep bank of the river (refer to photo 5-2 and 5-3 of the Stormwater and Flooding Assessment, Appendix R of the EIS).</p> <p>Notwithstanding the above, a review of the width of the drainage channels has been undertaken as part of the Proposal Amendments (refer to Section 6 of this RtS). The design of the channels has been reassessed with a view to reducing the footprint, and therefore clearing required. Riparian vegetation to be impacted at the three basin outlets (1.49 hectares) and covered drain (0.07 hectares) total 1.56 hectares of Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin. This compares to the removal of 1.67 hectares of this riparian vegetation identified in the EIS.</p> <p>The design of the northern channel has been refined to reduce vegetation clearing, and a maintenance access road has been removed from the central channel to reduce its width (refer to Appendix H of this RtS). The changing of widths to these two channels has resulted in a reduction in vegetation clearance at these areas (refer to the Updated BAR provided in Appendix G of this RtS).</p> <p>As noted above, the initial four OSDs under the MPW Concept Approval, has been reduced to three to minimise fragmentation of the riparian vegetation and the basin outlets have been located in areas already disturbed, with high abundance and cover of exotic species including invasive weedy species. The areas to be disturbed for the channels would be re-contoured and partially revegetated upon completion of the basin outlets to enable habitat connectivity. It would not be possible to revegetate the entire area, as there would be rock-filled gabion boxes in the centre of the outlet and maintenance access is required in the event of any damage to the outlet, to prevent potential impacts from scouring to the adjacent conserved areas.</p>	

Aspect	Comment	Response	Reference
		<p>It is envisaged that as a result of the works to refine the design and reduce the number of outlets and their width, the permanent impacts would be unlikely to significantly impede fauna movement provided that connectivity is enhanced using strategic revegetation and other fauna habitat features, such as rocks, to provide cover in these areas.</p> <p>In addition to this, the amendments to the Proposal include the installation of a drain within an area of the conservation area that has been previously cleared. This area is currently used as an easement for Endeavour Energy. This covered drain would require clearance of 0.07 ha of native vegetation (River-flat Eucalypt Forest on Coastal Floodplains EEC). The drain would be relatively narrow and would not result in additional impacts to fauna connectivity. An assessment of the impacts of this covered drain on biodiversity values has been provided in the Updated BAR (Appendix G of this RtS)</p> <p>Overall, the approach provided for the Amended Proposal is considered suitable and acceptable in the context of the potential environmental issues associated with not installing the channels, channel failure and/or significant scouring in a major rainfall event. Mitigation measures to be implemented are detailed in Section 8 of this RtS.</p>	
Erosion and sedimentation	The ESCP should be specifically designed to the erosive potential of the locally occurring soils, both natural soils and the fill material used in the works. It should also include measures to revegetate formed banks as soon as possible following construction and use temporarily bank stabilisation methods prior to this where required.	<p>As discussed in Section 12.5 of the EIS, a Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP), or equivalent, would be prepared as part of the Construction Environmental Management Plan (CEMP) for the Proposal. The SWMP and ESCPs would be based on the Preliminary ESCPs provided in the Stormwater and Flooding Assessment Report (Appendix R of the EIS).</p> <p>Final site specific ESCP(s) for the Proposal would be prepared and established before the start of each construction phase and would be updated as relevant to the specific construction activities. This would consider any changes to soil types generated by the importation of fill. The ESCP(s) for the Proposal would be prepared in accordance with the following documents:</p>	Sections 12 and 22 and Appendix R of the EIS. Appendix H of this RtS

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • Volume 1 Managing Urban Stormwater: Soils and Construction ('the Blue Book') (Landcom 2004), • Volume 2A Managing Urban Stormwater: Soils and Construction – Installation of Services (OEH 2008c) • Volume 2D Managing Urban Stormwater: Soils and Construction – Main Road Construction (OEH 2008d). <p>Further updated erosion and sediment control details are provided in the Revised Stormwater and Drainage Design Drawings (refer to Appendix H of this RtS). These drawings include updated erosion and sediment control plans (sheet 1 and sheet 2) and general designs for earth banks, sediment basins, sediment fences, kerbside turf strips and stabilised site access points to be implemented during the construction phase of the Proposal. In particular, the following impact mitigation principles regarding revegetation and stabilisation would be implemented within the SWMP and ESCPs, as identified in Section 22 of the EIS:</p> <ul style="list-style-type: none"> • The extent of disturbed areas across the site at any one time is to be minimised • Priority should be given to management practices that minimise erosion, rather than to those that capture sediment downslope or at the catchment outlet • Progressive stabilisation of disturbed areas is to be undertaken once earthworks are complete • Disturbed land would be rehabilitated as soon as practicable. 	
	<p>The proposed drainage channel works in the riparian zone present a specific erosion and sedimentation risk to the Georges River. The ESCP should include the staging of vegetation removal activities within this area to just prior to the construction of the drainage</p>	<p>As discussed in responses above, design progression following the preparation of the EIS has identified an opportunity to refine construction boundaries and reduce vegetation clearing associated with basin outlet channel construction within the riparian corridor (refer to Appendix D and H of this RtS). Section 12.5 of the EIS outlines that construction works within close vicinity of the Georges</p>	<p>Section 12.5 of the EIS</p>

Aspect	Comment	Response	Reference
	<p>channel. There should be a commitment to minimise the area of vegetation damage in the riparian channels if possible, and a commitment to revegetate disturbed areas and stabilise soil temporarily if required.</p>	<p>River (i.e. proposed drainage channel works within the riparian zone) would be undertaken in accordance with management strategies for sites of high erosion potential, as described in the “Blue Book” (Landcom, 2004).</p> <p>This section also provides the following site specific mitigation measures, that would be implemented to mitigate erosion and sedimentation impacts specific to the Georges River during construction of drainage channels within the riparian corridor:</p> <ul style="list-style-type: none"> • Mitigation measure 4D: A suitably qualified ecologist would accompany clearing crews to ensure disturbance is minimised and to assist in relocating any native fauna to adjacent habitat. • Mitigation measure 4E: A staged habitat removal process would be developed and would include the identification and marking of all habitat trees in the area • Mitigation measure 4T: The proposed stormwater basin outlets would be designed to minimise biodiversity impacts by incorporating native revegetation and fauna habitat features as far as possible. • Mitigation measure 5A: <ul style="list-style-type: none"> – Disturbed land would be rehabilitated as soon practicable – All reasonable efforts would be taken to program construction activities during periods when flood flows are not likely to occur – The construction area, on completion of construction works, would be left in a condition that promotes native revegetation. <p>The final site specific ESCP(s) for the Proposal would be prepared and established before the commencement of construction. The ESCP(s) for the Proposal would be prepared in accordance with the following documents:</p> <ul style="list-style-type: none"> • Volume 1 Managing Urban Stormwater: Soils and Construction (‘the Blue Book’) (Landcom 2004) 	<p>Appendix D and H of this RtS.</p>

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • Volume 2A Managing Urban Stormwater: Soils and Construction – Installation of Services (OEH 2008) • Volume 2D Managing Urban Stormwater: Soils and Construction – Main Road Construction (OEH 2008). 	
Consultation	The proponent should develop the Construction Environmental Management Plan (CEMP) and the Erosion and Sediment Control Plan (ESCP) in consultation with DPI Fisheries.	Noted.	N/A
Water quality and aquatic ecology	The proponent should implement the proposed mitigation measures relating to the Georges River, water quality and aquatic biodiversity during and following construction.	Noted. Refer to responses below regarding mitigation measures.	Section 22 of the EIS. Section 8 of this RtS.
	Regarding mitigation measure 4H when translocating fish from drained ponds/dams it is important that only native fish that are endemic to the Sydney area are translocated to natural waterways. To ensure ethical animal welfare practices are employed, all pest fish are to be euthanised on ice. Should any non-endemic native species be encountered, then DPI Fisheries should be consulted to determine the best location to translocate this species.	The following mitigation measure has been added to the consolidated list of mitigation measures (refer Section 8 of this RtS): Native fish that are endemic to the Sydney area would be translocated from drained ponds/dams on the site to natural waterways and pest fish would be euthanised on ice. Should any non-endemic native species be encountered on site, then DPI Fisheries would be consulted to determine the best location to translocate this species.	Section 8 of this RtS.
Wetland assessment and impacts	The proponent has obtained an independent Wetland Assessment as required by condition E22 of the concept plan approval. The proponent should confirm that the recommendations of this assessment have been incorporated into mitigation measures, or	As discussed in Section 11.3 of the EIS the recommendations/ mitigation measures outlined in the Wetland Assessment (Appendix Q of the EIS) were fully incorporated into the mitigation measures detailed in Sections 11.5 and 12.5 of the EIS (refer also to Section 22 of the EIS).	Sections 11, 22 and Appendix Q of the EIS.

Aspect	Comment	Response	Reference
	clearly indicate if these recommendations have not been fully adopted.		
	The Wetland Assessment identifies building waste and rubble present on the western banks of the Amiens Wetland. The proposed management of this waste is not outlined. The proponent should seek advice from the independent wetland specialist as to whether it is appropriate to remove the building waste and rehabilitate the western bank of the wetland.	The Amiens wetland is identified as an offset area as part of the biobanking agreement application submitted to OEH in March 2017. The purpose of this proposed agreement is to secure the offset areas by establishing a biobank site. Management actions that will be taken include measures identified to rehabilitate this wetland. The removal of the building waste (deposited as part of previous activities) is listed as a measure to be included as part of these rehabilitation works.	Section 11 and Appendix Q of the EIS. Section 7 and Appendix G of this RtS
	The proponent should provide details on whether Basin 4 is to discharge to the wetland, and if so the potential impact this could have on the hydrology of the wetland should be assessed.	An assessment of stormwater and drainage in the northern portion of the Proposal site, including Basin 4 and the Amiens wetland, is included in Appendix H of this RtS. This assessment identified that initial 'environmental' low flow discharges would occur from the proposed Basin 4 into the wetland, while the less frequent (larger storm event) discharges from Basin 4 would bypass the wetland. This would replenish the wetland while mitigating potential flood impacts on neighbouring areas.	Sections 11, 12 and Appendix Q of the EIS Appendix H of this RtS
Groundwater monitoring	The proponent should provide further detail on the groundwater monitoring program, including a schedule and locations for monitoring.	As stated in Section 13.4.2 of the EIS and mitigation measure 6F ongoing groundwater monitoring would commence following site remediation, through the preparation of a Groundwater Management Plan (GMP) as part of the Long-Term Environmental Management Plan proposed for the site (LTEMP). The GMP would be reviewed and signed off prior to a Site Audit Statement being issued for the Proposal site. As stated in Section 5.4 of the Contamination Summary Report (Golders, 2016) at Appendix S of the EIS, monitoring locations, contaminants to be monitored and a monitoring schedule would be determined at the completion of the remediation works for the Proposal.	Sections 12 and 13 and Appendix S of the EIS

Aspect	Comment	Response	Reference
	The Geotechnical Interpretative Report should include bore hole logs, details of groundwater monitoring bores, a bore census for water monitoring bores and users, and a summary of groundwater measurement levels.	As stated in Section 1.2 of the Geotechnical Interpretative Report (GIR) (Appendix S of the EIS), several geotechnical investigations have previously been undertaken across the MPW site. Bore hole details, logs, and investigation results are detailed in the GIR (GDR - REF:1416224_035_R). In addition, a summary is included in Section 13.2.1 of the EIS.	Section 13 and Appendix S of the EIS
Mitigation Measures and REMMS	Mitigation Measure 0B should be amended to list that as a minimum the CEMP would include a Flora and Fauna Management Plan and a Groundwater Monitoring Program (pages 593 and 594).	The updated list of consolidated mitigation measures included in Section 8 of this RtS includes a Flora and Fauna Management Plan (FFMP) and a Groundwater Monitoring Program as sub-plans to the CEMP.	Section 8 of this RtS
	Mitigation Measure 4N is to explore opportunities to plant the detention basins with native aquatic emergent plants (page 604). Additional details are required as to whether the basin design can be dry and fully planted with terrestrial/riparian vegetation endemic to the local native vegetation community (consistent with DPI Water's Guidelines for Controlled Activities on Waterfront Land), particularly as basins 5, 6 and 8 adjoin the riparian corridor/conservation area. If so, it is recommended that the Mitigation Measure is amended to reflect this.	<p>As described in mitigation measure No. 4N of Section 22 of the EIS, planting options within detention basins would be explored during the detailed design phase of the Proposal.</p> <p>The proposed bioretention system within Basins 5, 6 and 8 are to be planted in accordance with current best practice, which would include planting within and around on-site detention (OSD) that replicates locally occurring and core plant species of local provenance and matches the surrounding landscape (refer Sections 11 and 22 of the EIS). This approach is consistent with DPI Water's Guidelines for Controlled Activities on Waterfront Land.</p> <p>Allowance for planting within and around bioretention structures, and an indicative plant schedule, is provided within the Revised Landscape Plans (refer to Appendix B of this RtS).</p>	<p>Sections 11 and 22 of the EIS</p> <p>Appendix B of this RtS</p>
	Mitigation Measure 4S relates to ongoing monitoring of macroinvertebrate communities upstream and downstream of the proposed basin outlets. The mitigation measure needs to clarify whether the monitoring sites also include upstream and downstream of the proposed Georges River bridge crossing. The mitigation measure should be	<p>The proposed rail bridge across Georges River is to be constructed under the MPE Stage 1 Approval (SSD 14-6766). This construction and its associated monitoring does not form part of the Proposal and is included in MPE Stage 1, as detailed in the MPE Stage 1 Conditions of Approval.</p> <p>As detailed Section 11 of the EIS and included as mitigation measure 4S, ongoing monitoring of macroinvertebrate communities as relevant to the</p>	Section 22 and Appendix Q of the EIS

Aspect	Comment	Response	Reference
	amended to require a report to be prepared which includes details on the macroinvertebrate monitoring program (including proposed locations of monitoring, frequency of monitoring etc).	Proposal, i.e. upstream and downstream of the proposed basin outlets, would be undertaken prior to, during and following construction.	
	Mitigation measure 6X in Appendix A indicates ongoing monitoring of macroinvertebrate communities upstream and downstream of the proposed bridge notes the bridge is not part of the proposal but monitoring may be considered. While acknowledged that the bridge is not part of this proposal clarification is requested as to whether ongoing baseline macroinvertebrate monitoring is required prior to construction of the bridge.	<p>This construction and its associated monitoring does not form part of the Proposal and is included in MPE Stage 1, as detailed in the MPE Stage 1 Conditions of Approval.</p> <p>As detailed in Section 11 of the EIS and included as mitigation measure 4S, ongoing monitoring of macroinvertebrate communities will be undertaken prior to, during and following construction upstream and downstream of the proposed impacts at the proposed basin outlets in the Georges River and reference locations to assist in identifying any changes in aquatic communities.</p>	Section 11 and 22 of the EIS.
	Mitigation Measure 6Z in Appendix A states a riparian restoration plan for the Georges River riparian zone is to be implemented. It indicates a management plan was prepared for the MPW concept plan EIS and it would be updated for the MPW project. The riparian restoration plan needs to be updated for the riparian zone particularly as the proposal indicates it will now require significant gaps for the basin outlets. Mitigation Measure 4P in Table 22.1 of the EIS should be amended to reflect that the riparian restoration plan should be updated, as it only states the CEMP and OEMP would consider and have reference to the weed removal and riparian vegetation restoration undertaken within parts of the	<p>The MPW Concept Approval (SSD 5066) includes a condition (No. D17) requiring that a biodiversity offset package be developed and implemented within 12 months after the commencement of the MPW Early Works (SSD 5066). A biobanking agreement application was submitted to OEH around March 2017. The purpose of this proposed agreement is to secure the offset areas by establishing a biobank site. Management actions will be taken to maintain or improve the biodiversity values of the offset areas.</p> <p>It is intended that the <i>Management Plan for Restoration of the Riparian Zone of the Georges River</i> (Parsons Brinckerhoff 2014) (prepared to support MPW Concept Approval) will be updated as part of the Biodiversity Offset Package and associated restoration plans. These updates would take into account the proposed OSD outlet channels as relevant.</p>	Section 22 and Appendix Q of the EIS Appendix G of this RtS

Aspect	Comment	Response	Reference
	Georges River corridor under the MPW Concept Approval (page 604).		
	Mitigation Measure 9AF (under groundwater) in Appendix A relates to existing groundwater bores in the vicinity of the proposal. Details on the bores should be provided.	As stated in Section 1.2 of the GIR, several geotechnical investigations have previously been undertaken across the MPW site. Bore hole details, logs, and investigation results are detailed in the GIR (GDR - REF:1416224_035_R) (refer Appendix S of the EIS).	Appendix S of the EIS
PCEMP	The Revised Environmental Management Measures (REMMs) in Table 3.1 for Biodiversity states that “before construction detailed flora and fauna mitigation measures would be developed and presented as part of the CEMP” and that the CEMP would address REMM 6E, which includes the collection of topsoil (and seedbank) and the relocation of native plants to the riparian areas identified for rehabilitation (page 21). Clarification is required as to whether these REMMs are to be undertaken during the construction phase or pre construction as part of the site preparation activities.	The collection of topsoil (and seedbank) and the relocation of native plants to the riparian areas for rehabilitation would be undertaken during both the pre-construction phase (i.e. works period A) and construction phase and of the Proposal. As detailed in Section 4.3.2 of the EIS, works period A would occur prior to the construction phase of the Proposal, therefore prior to the development of the CEMP. Mitigation measure 0A states that pre-construction works would be undertaken subject to the preparation of an Environmental Work Method Statement (EWMS) or equivalent and would include the minor clearing or translocation of native vegetation that does not comprise any EECs (refer Appendix M of this RtS and Section 22 of the EIS).	Section 4 and Appendix I of the EIS Appendix M of this RtS
	REMM (6X) in Table 3.1 for Biodiversity states “ongoing monitoring of macroinvertebrates communities will be undertaken prior to, during and following construction” but the column for the Implementation Phase only indicates that the monitoring is to occur during pre-construction and construction. The implementation phase in the REMM needs to be amended to include post construction/operation phase.	Mitigation measure 4S included in Section 8 of this RtS includes operation in the implementation phase for this mitigation measure.	Section 8 of this RtS

Aspect	Comment	Response	Reference
	REMM (0B) in Table 3.2 needs to be amended to include that as a minimum the CEMP for the proposal will include a Flora and Fauna Management Plan and a Groundwater Monitoring Program (page 37).	Mitigation measure 0B included in Section 8 of this RtS has been updated to include a Flora and Fauna Management Plan (FFMP) and a Groundwater Monitoring Program as sub-plans to the CEMP.	Section 8 of this RtS
	REMM (0C) in Table 3.2 needs to be amended to include that as a minimum the Operational Environmental Management Plan (OEMP) for the proposal will include a Flora and Fauna Management Plan (pages 37-38).	The updated list of consolidated mitigation measures included in Section 8 of this RtS has been updated to include a FFMP as a sub-plan to the OEMP.	Section 8 of this RtS
	REMM (4F) in Table 3.2 indicates the collection of topsoil (and seedbank) and the relocation of native plants to the riparian areas for rehabilitation will be undertaken during construction. Clarification is required as to whether these REMMs are to be undertaken during construction or pre-construction as part of the site preparation activities. The topsoil areas to be collected; the areas of remnant native vegetation to be translocated and the riparian areas to be rehabilitated need to be identified in a scaled plan in the FFMP.	<p>The collection of topsoil (and seedbank) and the relocation of native plants to the riparian areas for rehabilitation would be undertaken during both the pre-construction phase (i.e. works period A) and construction phase of the Proposal. As detailed in Section 4.3.2 of the EIS, works period A would occur prior to the construction phase of the Proposal, therefore prior to the development of the CEMP.</p> <p>Mitigation measure 0A states that pre-construction works would be undertaken subject to the preparation of an Environmental Work Method Statement (EWMS) or equivalent and would include the minor clearing or translocation of native vegetation that does not comprise any EECs (refer Appendix M of this RtS and Section 22 of the EIS).</p>	Section 4 of the EIS Appendix M of this RtS
	REMM (8B) in Table 3.2 indicates landscaping for the proposal will include use of species that are local to the area and use of seeds collected within the local area for planting (page 57). These mitigation measures are supported especially for any landscaping that is undertaken adjacent to, or in close proximity to the riparian corridor/ conservation area along the Georges River.	Support for this mitigation measure is noted.	N/A

Aspect	Comment	Response	Reference
	<p>Table 2.2 in the Preliminary CEMP should be amended to specifically include for the work period - B Site preparation activities to not only undertake vegetation clearance but to:</p> <ul style="list-style-type: none"> • relocate native plants from areas that are to be permanently cleared and transplant them into the riparian areas/conservation area identified for rehabilitation • collect topsoil (and seedbank) from native vegetation areas that are to be permanently cleared and to use this in the revegetation of riparian areas (see Appendix I, Volume 3). 	<p>The Preliminary Construction Environmental Management Plan (PCEMP) provided in Appendix I of the EIS aims to provide a structured approach to the development of the CEMP for the Proposal. Table 2.2 in the PCEMP is consistent with Table 4-6 in Section 4.3.2 of the EIS, which provides a high level overview of the activities to be undertaken within each works period.</p> <p>As detailed in Table 11-11 of the EIS, the following mitigation measures would be undertaken during the construction phase, including works period B, of the Proposal:</p> <ul style="list-style-type: none"> • Relocate native plants from areas that are to be permanently cleared and transplant them into the riparian areas/conservation area identified for rehabilitation • Collect topsoil (and seedbank) from native vegetation areas that are to be permanently cleared and to use this in the revegetation of riparian areas <p>These mitigation measures are the responsibility of the construction contractor and would be included in the CEMP for the Proposal.</p>	<p>Section 4 and Appendix I of the EIS</p>
	<p>Table 8.1 should be amended to include groundwater monitoring (pages 93-94).</p>	<p>As detailed in mitigation measure 6F (refer Section 22 of the EIS), groundwater monitoring will be included in the Long Term Environmental Management Plan (LTEMP) (to be prepared for approval by the Accredited Site Auditor and in association with the OEMP).</p>	<p>Section 22 and Appendix I of the EIS Section 8 of this Rts</p>

4.5 NSW Health

NSW Health did not make a detailed submission on the EIS, and advised that the issues raised in their submission dated 4 July 2015 on the MPW Concept RtS, should be considered in relation to the Proposal.

Aspect	Comment	Response	Reference
Air quality	The quantitative risk assessment [for MPW Concept Approval] uses approaches that NSW Health supports - i.e. to quantitatively estimate the incremental additional impact of various pollutants on health outcomes.	<p>A Human Health Risk Assessment (HRA) (Ramboll Environ, 2016) was included in Appendix P of the EIS. The HRA includes quantitative evaluation of potential risks to human health.</p> <p>The focus of the air quality HRA was on the health impacts of emissions from the operational phase of the Proposal. The key air pollutants evaluated in the local air quality assessment were considered as chemicals of potential concern (COPCs) and inhalation of air was evaluated as an exposure pathway. For each COPC, increased annual incidence for mortality and morbidity endpoints were then calculated as was the excess lifetime cancer risk associated with volatile organic compounds.</p> <p>Health endpoints and associated exposure-response relationships were previously approved by NSW Health as part of the consultation undertaken for MPE Stage 1, and were therefore also adopted for the Proposal HRA. The HRA was also based on that provided within the MPW Concept Approval and consultation was undertaken with NSW Health as part of the preparation of this documentation (refer to Section 6 of the EIS).</p> <p>Emissions to air from the construction sources were not evaluated, in this HRA, consistent with the approach adopted for the MPE Stage 1 Proposal. Construction phase impacts for the Proposal would be temporary, effectively managed through the mitigation measures</p>	<p>Section 10 and Appendix P of the EIS.</p> <p>Section 7 of this RtS</p> <p>Section 8 of this RtS</p>

Aspect	Comment	Response	Reference
		<p>detailed in Section 8 of this RtS and would comply with the relevant air quality standards.</p>	
	<p>In relation to the assessment of cumulative impacts from the operation of both the Moorebank and SIMTA sites, the predicted health impacts are generally considered to be low (not significant); however there is the potential for risks in adjacent commercial/industrial areas to be at a level that are considered unacceptable. The assessment suggests further mitigation measures need to be implemented to minimise exposure to particulates in the adjacent workplaces. This should be detailed further.</p>	<p>The HRA for the Proposal considers the previous impacts identified in the Health Impact Assessment (HIA) for the MPW Concept Approval (EnRisks, 2014), and where possible mitigates these impacts. Of particular note is that a Best Practice Review has been completed for the Proposal to identify all measures to minimise the impacts identified by the HIA.</p> <p>The HRA notes that commercial/industrial workers and recreational users may not be continuously exposed to COPCs in air, and using annual average ground level concentrations (GLCs) (which are appropriate for residential receivers) instead of the actual air concentrations to assess impacts on these human receptors may underestimate the risk. Therefore, the annual average GLCs for the warehousing were first adjusted back to the actual air concentrations and then used for assessment.</p> <p>The HRA for the Proposal found no significant adverse health effects in relation to short-term and long-term exposure to key air pollutants in the surrounding communities. The increased annual incidences for the health endpoints evaluated were all below the acceptable risk of one additional case per year. The excess lifetime cancer risks were also within or below the acceptable risk range of 10^{-6} to 10^{-4}.</p> <p>Further, based on the estimated increased annual incidence for multiple health endpoints contributing to mortality and morbidity, there are no significant adverse health effects expected in relation to short-term</p>	<p>Section 8, Section 10 and Appendix P of the EIS.</p>

Aspect	Comment	Response	Reference
		<p>exposure to PM₁₀, PM_{2.5}, NO₂, SO₂ or CO from the cumulative Proposal (simultaneous operation of the Proposal plus the MPE Stage 1 Proposal) in the surrounding local area.</p> <p>On the basis of the progressive assessment, no further mitigation measures need to be implemented to minimise exposure to particulates in the adjacent workplaces.</p>	
Noise	<p>There is potential for sleep disturbance from rail pass-by events. As detailed in the Revised Project Report for Noise and Vibration maximum levels at Casula and Glenfield would exceed the sleep disturbance objective for industrial premises. We note there is no separate allowance for wheel squeal. The report correctly indicates that sleep disturbance will depend on the frequency of events and the time of day/night. Appropriate mitigation measures should be considered. Advice should be sought from the Environment Protection Authority about appropriate mitigation but may include, track lubrication, effective maintenance regimes for locomotives and carriages, electrification, and low noise barriers. Consideration should be given to requiring noise monitoring and a Noise Management Plan as a condition of consent.</p>	<p>The Rail link is to be constructed under the MPE Stage 1 Project (SSD 14-6766). The Proposal would include a Rail link connection, connecting and operating trains on the MPE Stage 1 Rail link.</p> <p>The HRA for the Proposal compares predicted noise levels with guideline criteria for health provided by the World Health Organisation (WHO). The WHO guidelines for community noise are designed to protect against the key health effects of annoyance, sleep disturbance, and cognitive impairment (WHO, 1999). The ratio of the predicted noise level to the guidelines is termed the hazard quotient, with a hazard quotient of less than 1 considered to be an acceptable level of risk.</p> <p>For the Proposal, hazard quotients derived for operational rail noise were greater than 1 for all categories (annoyance, sleep disturbance and cognitive impairment) in the suburb of Casula, for sleep disturbance in Glenfield and for cognitive impairment at All Saints Senior College.</p> <p>These exceedances are, however, only marginal, and indicate that rail noise may result in a small increase in the risk of health outcomes to the community, if left unmitigated. It is also noted that a similar hazard</p>	<p>Section 8, Section 10, Appendix N and Appendix P of the EIS.</p> <p>Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>quotient is generated by ambient noise as rail noise and this suggests that additional noise impact generated by operational rail noise is not likely to be primarily responsible for any health impacts.</p> <p>As noted in Section 8.5 of the EIS, the measured noise levels and contribution from operation would be continually reviewed in the context of the detailed design of the Proposal to ensure it includes appropriate mitigation measures to reduce and control noise. Monitoring data would also include any changes to the ambient noise environment from new or changed developments in the area.</p> <p>The operation of the Rail link is subject to the MPE Stage 1 Approval (SSD 14-6766). Mitigation measures 3B, 3C and 3D documented in the MPE Stage 1 RtS address noise from the Rail link, including the potential for wheel squeal. These measures include use of friction modifiers, rail grinding and preparation of a Rail Noise Management Plan (RNMP).</p>	
Traffic congestion	The predicted health outcomes relating to traffic congestion should be positive as long as all the proposed mitigation measures are implemented.	Noted.	N/A
Light spill	There is potential for light spill during the construction and operation phases. This may be increased by trains running at night, which have the potential to impact on Casula residents. The EIS considers this risk to be low.	<p>The potential for light spill associated with the construction and operation of the Proposal is considered in Section 15 of the EIS.</p> <p>In particular, it is noted that an assessment of the potential light spill from the operation of locomotives was included in the Rail Access Report (refer to Appendix F of the EIS).</p>	Section 15 and Appendix F of the EIS

Aspect	Comment	Response	Reference
Hazardous material	On site hazardous materials are to be limited to fuel for refuelling purposes and CO ₂ for fire fighting. The EIS considers there to be negligible risk of offsite impacts on the local community.	As identified in Section 14 of the EIS, materials would be stored appropriately to minimise the risk of on or off site contamination.	Section 13 and Section 14 of the EIS
Human health risks and impacts	Support Mitigation Measure 17A - As part of wider ongoing monitoring and evaluation processes, monitoring data for air quality, noise and traffic would be regularly reviewed against the guidelines developed in the specialist studies supporting this EIS, as they are based on protecting the health of the community. Should exceedances be identified in these key indicators as a result of the Project, then a further and more targeted monitoring and management program would be developed as required.	Noted. REMM 17A will apply to the Proposal.	N/A
Grey water and black water recycling	If the use of grey water and black water recycling is considered, it will need to comply with the relevant guidelines and agency approval. Recycling water would most likely be used for toilet flushing and/or landscape irrigation	Noted. Onsite wastewater treatment is not proposed as part of the Proposal.	N/A
Revised Environmental Management measures	The revised environmental management measures outlined in chapter 9 and the mitigating measures are extensive. Many of these impact directly or indirectly on human health and are supported.	Noted. These REMMs (as relevant), along with the mitigation measures included within Section 8 of this RtS, are to be implemented for the Proposal.	Section 8 of this RtS

4.6 Liverpool City Council

A formal submission comprising a letter (dated 30 November 2016) was received from Liverpool City Council. Several comments were provided, as summarised and responded to below.

Aspect	Comment	Response	Reference
Cumulative			
Masterplan	<p>The preparation of a precinct wide master plan for the Moorebank Area (inclusive of the MPW and MPE sites), as previously recommended by the PAC, is an overarching recommendation that is necessary, justified and in the public interest. The outcome of the master planning process would provide additional certainty for the community and would address the currently unmitigated residual impacts.</p> <p>The lack of a master planned approach ensures the cumulative impacts of the MPW and MPW sites are not clearly articulated and an assessment of whether the significant environmental impacts can be mitigated preferably on land under the proponents control.</p> <p>It is essential that a precinct-wide planning process be undertaken, informed by the agreement between Sydney Intermodal Terminal Alliance (SIMTA) and Moorebank Intermodal Company (MIC) as to the extent of cooperation and integration of the two proposed Intermodal Terminals (IMT's), while also considering Council's strategic intent for the site and surrounds. Inputs would also be required from other stakeholders including the DP&E, Transport for NSW and RMS.</p>	<p>It is noted a precinct-wide master plan for the Moorebank Area wasn't a PAC recommendation. As discussed in Section 1.1 of the EIS, SIMTA has entered into an agreement with MIC to build and operate the MPW Project (under SSD 5066). The MPW and MPE Projects will retain their separate approvals and remain viable as standalone projects.</p> <p>Notwithstanding this, a 'whole of precinct' approach to the Moorebank Precinct development is taken with respect to site operations, with both sites being developed in consideration with one another. This is evident in the cumulative assessment provided for key issues including traffic, noise and vibration, air quality, human health, hazard and risk, biodiversity and visual amenity (refer to Section 19 of the EIS), that have considered the potential impacts of the Proposal as a standalone as well as being undertaken in conjunction with the adjacent MPE development. Further, potential impacts on the broader Moorebank area is also considered in these assessments. Mitigation measures have been provided in Section 22 of the EIS, and Section 8 of this RtS.</p> <p>Detailed cumulative impact assessments have also been undertaken previously as part of the MPW Project (MPW Concept Approval) and the MPE Project (MPE Concept Plan Approval and MPE Stage 1 Approval (SSD 14-6766)). In all instances, mitigation</p>	<p>Sections 1, 19 and 22 of the EIS.</p> <p>Section 8 of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>measures have been prepared to mitigate environmental issues associated with the two projects.</p> <p>Further, Section 3 of the EIS provides the various levels of strategic planning. Sub planning at a local level was undertaken (refer to the Georges River Master Plan). The proposed development is considered consistent with the intended future land use of the area.</p> <p>The Greater Sydney Commission (GSC) <i>Draft SW District Plan</i> (2017) (the District Plan) comprising the Liverpool Collaborative Area, is considered to be an appropriate vehicle within which the opportunity and approach to planning outcomes that integrate the Moorebank Precinct can be facilitated, communicated and achieved.</p> <p>The District Plan highlights the importance of freight and logistics capability within the South West of Sydney and, as detailed below, the Proposal is considered to be consistent with the overarching priorities of the District Plan.</p>	
	<p>The physical proximity and common operator for both Moorebank IMT sites suggests that there may be a shared rail link to the SSFL and associated infrastructure. Such a scheme has not yet been put forward, with separate rail connections and road interfaces proposed.</p> <p>It is acknowledged that the scope of this review is focused on the MPW Project. However, given the proximity of the two IMT's, there is the potential for large scale and wide ranging cumulative environmental impacts. Consequently, such impacts and opportunities for further integration of the Projects has previously been raised by both the Planning Assessment Commission and Council, with further comment in this submission. The consideration of cumulative impacts would ensure the most</p>	<p>As detailed in Section 4 of the EIS, the Proposal involves the construction of the Rail link connection only i.e. linking the sidings within the IMT facility on the MPW site to the Rail link. The Rail link, construction for which is approved under the MPE Stage 1 Project Approval (SSD 14-6766), would provide the connection to the SSFL. The Proposal seeks approval for the connection to the Rail link and the operation of trains on the Rail link only.</p> <p>Detailed cumulative impact assessments have been undertaken previously as part of the MPW Project (MPW Concept Approval) and the MPE Project (MPE Concept Plan Approval and MPE Stage 1 Approval (SSD 14-6766)). In each instance, mitigation</p>	<p>Sections 1, 4, 19, 22 of the EIS.</p> <p>Section 8 of this RTS.</p>

Aspect	Comment	Response	Reference
	<p>efficient and coordinated use of the land, while gaining a clear understanding of the potential impacts of both Projects on the Liverpool community and Council assets.</p>	<p>measures have been prepared to mitigate environmental issues associated with the projects.</p> <p>A cumulative impact assessment for the Proposal, in consideration of the MPE Stage 1 Project, is provided in Section 19 of the EIS. Mitigation measures have been provided in Section 22 of the EIS, and Section 8 of this RtS.</p>	
<p>Cumulative scenario</p>	<p>The EIS is reliant on the cumulative scenario identified, which comprises SIMTA operating at 250,000 TEU's per annum and MIC operating as per the early works package, which comprises a zero TEU throughput.</p> <p>The Glenfield Recycling Facility is also considered, although quantitative assessment is not provided. A true cumulative assessment would consider the MIC site's operational impacts in conjunction with SIMTA operations, alongside development in the local and regional area.</p>	<p>Detailed cumulative impact assessments have been undertaken previously as part of the MPW Project (MPW Concept Approval) and the MPE Project (MPE Concept Plan Approval and MPE Stage 1 Approval (SSD 14-6766)). These assessments provided a cumulative impact of both projects operating in a full build scenario (i.e. all development operational). In each instance, detailed mitigation measures have been prepared to mitigation environmental issues associated with the projects.</p> <p>Additional cumulative assessments build from those provided and include an assessment of the Proposal and the most likely other stages and neighbouring projects to be undertaken at the time of construction or operations. As outlined in Section 19.2 of the EIS, developments within vicinity of the MPW site considered appropriate for cumulative assessment include the neighbouring MPE Project and the Glenfield Landfill (Materials Recycling) facility development.</p> <p>As detailed in Section 19 of the EIS, the Glenfield Recycling Facility (Materials Recycling facility) Proposal was issued with SEARs in December 2013 (SSD 13_6249). Cumulative assessment modelling undertaken for the Proposal has considered the implications presented by this development where applicable.</p>	<p>Section 19 of the EIS.</p>

Aspect	Comment	Response	Reference
Traffic			
Cumulative traffic and required upgrades	The proposed development would be expected to generate significant traffic volumes. Council has consistently contended that the cumulative impact of the terminal developments needs to be assessed and the required upgrades committed and funded before additional developments are approved. Council again strongly requests that the traffic investigation and associated infrastructure upgrades and funding commitments are confirmed before approvals are granted.	<p>A Traffic Impact Assessment provided in Section 7 and Appendix M of the EIS identifies that the Proposal (and cumulative scenario, which included MPE Stage 1 and the Proposal) would result in only minor traffic impacts to the surrounding road network in the presence of mitigation and management measures.</p> <p>The analysis shows that, with the exception of the Moorebank Avenue/Anzac Road intersection, all of the key intersections within the study area would require upgrades to manage existing and projected background traffic volumes without the addition of the traffic generated by the Proposal. The assessment concludes with proposing an upgrade (Moorebank Avenue / Anzac Road intersection) and other road network improvements (to be undertaken by Roads and Maritime Services) to improve traffic movement from anticipated background traffic growth and the Proposal.</p> <p>As described in Section 20.3 of the EIS, developer contribution discussions to address traffic impacts would be undertaken with Roads and Maritime subsequent to the finalisation of the Precinct Model⁴.</p> <p>There are a number of stakeholders involved in providing resources and funding to upgrade infrastructure to support background growth coupled with the implications of the MPW and MPE projects. SIMTA and MIC will continue to collaborate with relevant stakeholders to determine and implement its relative</p>	Sections 7, 20.3 and Appendix M of the EIS.

⁴ Currently under preparation by MIC to highlight all potential traffic impacts of the Proposal (as a part of the Moorebank Precinct), the need for upgrades to the road network, and the timing and triggers for those upgrades. This Precinct Model is envisaged to be available towards in the first quarter of 2017.

Aspect	Comment	Response	Reference
		<p>contribution, however, it is not able to affirm the funding and resourcing commitments of other stakeholders in the exercise of their respective agency functions.</p> <p>The conditions of approval and planning framework provide the means by which contributions and work-in-kind are able to be achieved.</p>	
RMS modelling	The EIS cannot be adequately assessed without the release of RMS modelling.	<p>The Roads and Maritime LMARI modelling has been included within the Operational Traffic and Transport Impact Assessment (OTTIA) for the Proposal (refer to Appendix M). These results are reflective of one stage of the precinct model (i.e. Stage 2) and are considered suitable for the assessment of the Proposal for the EIS. WSP Parsons Brinkerhoff (PB) is currently undertaking modelling for the greater Moorebank Precinct, taking into consideration the cumulative impacts for the ultimate full-build scenario. When completed, the model will be available for Council.</p> <p>The MPW Stage 2 traffic model has been provided to TfNSW in mid-March 2017, as requested in the meeting undertaken with TfNSW (and DP&E) on 9 March 2017 (refer to Section 2 of this RtS).</p>	<p>Section 7 and Appendix M of the EIS.</p> <p>Section 2 of this Rts.</p>
Congestion and road safety	The increase in anticipated traffic movements entering/exiting the proposed site from surrounding road networks will significantly increase the heavy vehicles in the area, which would then have negative impacts on road maintenance and reduced road safety. The community have also raised significant concerns about increased congestion and associated stressors for commuters and local businesses.	As outlined in Section 7.4 of the EIS, all modelled scenarios during construction would not adversely impact the level of service of the M5 / Moorebank Avenue intersection. This would therefore not significantly impact on road maintenance or safety aspects to the existing condition of the M5 and surrounding road networks. Restriction of haulage routes during construction, through signage and education to restrict heavy vehicles in residential areas, is included within the Construction Traffic	Section 7 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
		<p>Management Plan for the Project (refer to Appendix M of the EIS).</p> <p>For operations, as denoted in Figure 7-12 of the EIS, the majority of trucks would access the site via the M5 Motorway from the west, and would use the M5 / Moorebank Avenue intersection to access the Proposal site. As shown in Section 7.4 of the EIS, intersection performance levels at the M5 / Moorebank Avenue intersection during the 2019 opening year of operations would be at acceptable levels both with and without the Proposal. Intersection Level of Service at this intersection as modelled in 2029 would be unacceptable both with and without the Proposal in its existing form, thus highlighting the need for upgrades at this location irrespective of the Proposal. Ongoing maintenance concerning this location would arise irrespective of the Proposal development.</p> <p>Operational traffic controls, included within the Preliminary Operational Traffic Management Plan (POTMP) are included to restrict heavy vehicles travelling along Anzac Road, Moorebank Avenue (south of the Proposal site entrance) or Cambridge Avenue to access the Proposal site.</p> <p>Overall, the traffic assessment concluded that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of the proposed mitigation and management measures. The analysis shows that with the exception of the Moorebank Avenue/Anzac Road intersection, all of the key intersections within the study area, including the Moorebank Avenue / M5, would require road network improvements to manage existing and projected background traffic volumes before the addition of the traffic generated by the Proposal. Upgrades to the Moorebank</p>	

Aspect	Comment	Response	Reference
		Avenue / Anzac Road intersection are recommended as part of the Proposal, subject to negotiations with Roads and Maritime.	
Operational Traffic Impacts: Traffic generation - Freight village	<p>The Arcadis Operational Traffic Report (Proposal Overview, Section 1.6) states that a freight village of approximately 800m² of retail premises is proposed within the Project.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) There is no evidence in the subsequent sections of the report informing or incorporating the traffic generation to and from the retail premises. b) There is a risk that omitting the traffic generation for the freight retail premises may not provide an accurate performance of the assessed intersections listed in the report. c) The report and architectural drawings do not indicate a proposed location for the retail premises or accessibility. It is not clear if the only access to the precinct; Moorebank Avenue and Anzac Road intersection is proposed as well as the main access to the retail premises. 	<ul style="list-style-type: none"> a) Section 7.2 of the EIS outlines the Traffic Impact Assessment methodology. The retail premises is a component to be used for support by existing freight traffic, rather than ancillary non-project related traffic. This component has therefore been included within the traffic generation estimates provided in the OTTIA. Further, traffic generation rates used for the traffic analysis were based on surveys undertaken by PB at industrial estates in Erskine Park and Eastern Creek which contain retail components. Therefore, the retail component has been considered in the traffic generation for the Proposal although it is noted that it is a relatively small area relative to the overall total warehouse GFA (215,000 m²). b) Please see response to (a) above c) Figure 1-2 of the EIS and 5-9 of the OTTIA (Appendix M of the EIS) illustrates the proposed location of the Freight Village, and the proposed pedestrian and cyclist connectivity according to recognised pedestrian destinations. 	Section 7 and Appendix M of the EIS.
Operational Traffic Impacts: Intersection Assessment	<p>The Arcadis Operational Traffic Report (Study Area, Section 2.1) provides a list of 8 key intersections for the road network assessment.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) In reference to Section 5.4.2 of the Arcadis Operational Traffic Report it is not clear the reasons omitting the intersection assessment of the Moorebank Avenue and Bapaume Road considering the proposed change of turning movements allowed at the intersection. 	<ul style="list-style-type: none"> a) As part of the Proposal, the Moorebank Avenue/Bapaume Road intersection will be changed from an all-movement three-leg priority controlled intersection to a Left-out Only intersection, which is a simpler intersection layout. As such, an intersection analysis was not conducted for this intersection. b) Please see response to (a) above c) The proximity of Moorebank Avenue/Bapaume Road intersection to the Moorebank Avenue / Anzac Road intersection has been considered through the use of micro- 	Section 7 (Traffic and Transport) of the EIS. Appendix M of the EIS.

Aspect	Comment	Response	Reference
	<p>b) There is no evidence of existing and future conditions assessment at the above mentioned intersection with and without the Project.</p> <p>c) There is no evidence if the proximity of the Bapaume Road intersection to the Moorebank Avenue and Anzac Road intersection has been considered in the assessment of the road network and potential traffic conflicts identified.</p> <p>d) SIDRA summary of results are not provided. It is not possible to review outputs from SIDRA beyond the results listed for the overall of each of the intersections assessed.</p> <p>It is recommended to provide full details of the Level of Service (LoS) for each approach at signalised intersections. Particularly at the M5 Motorway and Moorebank Avenue interchange.</p> <p>The change of traffic patterns and increase traffic volumes due to the Project can be diluted in the overall performance of the intersection without considering that one or two particular movements of the interchange are directly impacted by the Project.</p>	<p>simulation pockets within the AIMSUN modelling, outlined within Section 7.2 of the EIS.</p> <p>d) The AIMSUN modelling software package was the main software used for the operational assessment in the OTTIA (refer to Appendix M of the EIS) supplemented with SIDRA modelling. Intersection Level of Service (LOS) results were extracted and reported. As discussed in Section 6 of the EIS, this approach was confirmed with Roads and Maritime prior to commencement of the modelling.</p>	
Operational Traffic Impacts: Historical traffic volume	<p>The Arcadis Operational Traffic Report (Historical Traffic Volume Section 2.3, Table 2-2) provides details of historical traffic volumes at four (4) locations.</p> <p>Moorebank Avenue north of Cambridge Avenue listed AADT:</p> <ul style="list-style-type: none"> • 14,348 (2002) • 15,903 (2005) • 14,098 (2009) 	<p>a) The 2002, 2005 and 2009 count data has been sourced from Roads and Maritime (refer Appendix E of this RtS document). However, Roads and Maritime informed that the 2009 data is based on a “Sample Count Site” (not a Permanent Count Site) and is not Annual Average Daily Traffic (AADT), but rather provisional Average Daily Traffic (ADT) estimates based on short period sample counts. Similarly, the 2010 data is ADT and is estimated from peak hour counts undertaken in July/August 2010 as part of the Concept Plan Application of the proposed Intermodal</p>	<p>Section 7 and Appendix M of the EIS.</p> <p>Appendix E of this RtS.</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • 16,500 (2010) <p>Relevant Issues for Clarification:</p> <ol style="list-style-type: none"> a) It appears inconsistent that the AADT in year 2005 is extremely higher (1,805) than in the AADT reported for year 2009. b) It appears inconsistent that the AADT in year 2010 increases over 2,400 in one year in relation to the year 2009. 	<p>Terminal Facility. While a direct comparison between these traffic datasets cannot be made, historical growth trends have been inferred (from the dataset) to provide context which indicate that traffic volumes along this section of Moorebank Avenue have not change substantially in the analysis period.</p> <ol style="list-style-type: none"> b) Please see response to (a) above.to (a) above. 	
Operational Traffic Impacts: Crash Data – Black Spot Assessment	<p>The Arcadis Operational Traffic Report (Crash Data, Section 2.5) provides an overall description of the crashes reported in the area.</p> <p>Relevant Issues for Clarification:</p> <ol style="list-style-type: none"> a) The Parsons Brinckerhoff Technical Paper 1 – Transport and Traffic Impact Assessment Section 2.8, October 2015, indicates that the number of crashes on Moorebank Avenue (approx. 2.8km of Moorebank Road) have been assessed against the Black Spot criteria. The assessment from Parsons Brinckerhoff indicates that the area is considered as a black spot. b) There is no evidence in the Arcadis report for a black spot assessment. Section 5.10.1 indicates that 51 crashes are reported on Moorebank Avenue during the period 2010 – 2015. 	<ol style="list-style-type: none"> a) General commentary, no response required. b) A black spot assessment was not conducted as it is not a requirement of the SEARs (SSD 7709) or REMMs (MPW Concept Approval - SSD 5066) relevant to the Proposal. However, Arcadis has assessed the crash trends on a network level which includes the M5 Motorway (and its three interchanges with Moorebank Avenue, Hume Highway and Heathcote Road), Moorebank Avenue (north and south of M5 Motorway), Anzac Road, Cambridge Avenue, Moorebank Avenue/Newbridge Road intersection, and Moorebank Avenue/Heathcote Road intersection. Notwithstanding this, the criteria for a blackspot is 3 casualty crashes over the most recent 5-year period. c) The assessment conducted in Section 7 of the EIS, and the OTTIA (refer to Appendix M of the EIS) does not trigger this criterion i.e. 2 fatalities over a 5-year period from 2010 to 2015 at two geographically separate locations (refer to Figure 2-4 of the OTTIA - Appendix M of the EIS). 	Section 7 and Appendix M of the EIS.
Operational Traffic Impacts: LoS Assessment –	The Arcadis Operational Traffic Report (Level of Service LoS, Section 3.3.1, Table 3-4) indicates that the M5 Motorway and Moorebank Avenue operates under existing conditions for year	<ol style="list-style-type: none"> a) Noted, it has been determined that there is a typographical error within the OTTIA (Appendix M of the EIS), the results for the M5 Motorway / Moorebank Avenue intersection should be 	Section 7 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
Existing Conditions 2015	<p>2015 at LoS of C and delay of 31 seconds for both AM and PM conditions.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) The results for the existing conditions for year 2015 assessment listed in the Arcadis Construction Traffic Impact Assessment, Table 5-3 indicates a LoS of B and 24 seconds delay in the AM peak and a LoS of C and 30 seconds delay during the PM peak conditions. This is inconsistent between the two reports considering both reports are summarising the intersection performance for the same existing conditions. b) SIDRA summary of results are not provided in any of the reports for cross referencing. c) The results listed in the Arcadis Operational Traffic report do not provide details of existing back of queue length. It is not possible assess if the back of queue at key intersection spills back to the adjacent intersections under existing conditions. 	<p>the same as those reported within the CTIA (Appendix M of the EIS).</p> <ul style="list-style-type: none"> b) Data used in the Traffic Impact Assessment is provided in Appendix A for the CTIA, and Appendix B in the OTTIA. The AIMSUN modelling software package was the main software used for the operational assessment in the OTTIA supplemented with SIDRA modelling. Intersection Level of Service (LOS) results were extracted and reported using the AIMSUN model as they were deemed to be more representative of future traffic conditions taking into consideration network wide interaction and impacts. c) As per the RTA Guide to Traffic Generating Developments (Section 4.2.2), “The best indicator of the level of service at an intersection is the average delay experienced by vehicles at that intersection. For traffic signals, the average delay over all movements should be taken”. As such only the intersection Level of Service from the AIMSUN model has been reported. 	
Operational Traffic Impacts: Benefits of the Proposal	<p>The Arcadis Report (Regional Benefits of the Proposal, Section 5.3) indicates as a benefit in the wider regional road network and increase in articulated truck flows, particularly on the M7, Hume Highway and Mamre Road south of the M4 Motorway as well as the M5 Motorway between Moorebank Avenue Interchange and the M7 Motorway.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) There is no traffic data provided in the report to support the above mentioned traffic increase in the wider road network. b) It is not clear from the statement that an increase of heavy vehicles in the wider regional network could be 	<ul style="list-style-type: none"> a) This traffic information is available within Chapter 3 of the previously submitted Moorebank Intermodal Terminal Project Environmental Impact Statement by PB submitted in October 2014 (MPW Concept EIS). It should be reiterated that traffic flow refers to the rate at which vehicles pass a given point on the roadway, whereas volume refers simply to the number of vehicles that pass a given point on the roadway at a specific period of time. It is stated in Section 5.3 of the OTTIA that wider regional benefits of the Project would include an increase in articulated truck flows, generated by a reduction in truck volumes b) Strategic modelling has been conducted by Parsons Brinkerhoff (PB) to model the impact of the increase in heavy 	<p>MPW Concept Approval EIS</p> <p>Section 7 and Appendix M of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>considered as a benefit without establishing a suitable strategic model encompassing this scale of assessment.</p> <p>c) Increasing the traffic in the wider regional network requires supporting and suitable traffic data and modelling to determine if additional traffic issues are generated or not.</p> <p>Some issues that would need further assessment of include:</p> <ul style="list-style-type: none"> • Additional traffic conflicts. • Additional delays, longer queues and traffic congestion. • Change of traffic patterns. • Deterioration of intersection performance. • Under or over utilisation of road infrastructure. • Crash probability. • Additional factors not directly related to traffic, i.e. Noise levels, air pollution, vibration levels. 	<p>vehicles on the wider regional network (refer to Section 3 of the MPW Concept EIS). As outlined in Section 5.3 of the OTTIA, the wider regional network benefit of reducing articulated truck volumes between Port Botany and Moorebank would improve traffic flows on the regional Sydney road network (i.e. M7, Hume Highway, Mamre road south of the M4 as well as the M5 between Moorebank Avenue and the M7.</p> <p>c) Please see response to (a) and (b) above</p> <p>Additional Comments Response:</p> <p>An adequate assessment of all required traffic-related issues has been considered within the assessments undertaken by PB for the MPW Concept Approval, and by Arcadis for the EIS.</p>	
Operational Traffic Impacts: Access Strategy	<p>The Arcadis Operational Traffic Report (Proposed Site Access and Network Upgrades, Section 5.4) indicates that the Project will have two main access points.</p> <p>Relevant Issues for Clarification:</p> <p>a) The statement that two main access would be provided appears inconsistent. Section 5.4 contradicts the proposed changes to Bapaume Road intersection listed in Section 5.4.2 (i.e. left turn out only)</p> <p>b) There is no SIDRA intersection analysis undertaken or mentioned in the operational or construction traffic impact assessments. There is no evidence to support</p>	<p>a) Two ingress/egress points are proposed (i.e. via the Moorebank Avenue/Bapaume Road and Moorebank Avenue/Anzac Road intersection. However, the main access point for the Proposal is the Moorebank Avenue/Anzac Road intersection.</p> <p>b) As part of the Proposal, the Moorebank Avenue/Bapaume Road intersection will be changed from an all-movement three-leg priority controlled intersection to a Left-out Only intersection, which is a simpler intersection layout. As such, an intersection analysis was not conducted for this intersection.</p>	Section 7 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
	<p>the existing and future conditions of the Bapaume Road intersection.</p>		
Operational Traffic Impacts: Internal Roundabout	<p>The Arcadis Operational Traffic Report (Figure 5-7 and 5-9) illustrates a proposed internal traffic roundabout and a connection from the roundabout to the Bapaume Road.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) There is no evidence of intersection analysis undertaken at the roundabout or the link connecting to Bapaume Road. There is a risk that queue lengths from a poor performance at the roundabout may spill back into the Moorebank Avenue and Anzac Road intersection. 	<p>The AIMSUN modelled network included the internal roundabout link connecting to Bapaume Road and Moorebank Avenue, which would be used as a left out intersection only. Incoming traffic would use the Moorebank Avenue and Anzac Road intersection, for which intersection analysis is provided in Appendix M of the EIS.</p> <p>Upstream/downstream queuing impacts at the internal roundabout link to Bapaume Road and Moorebank Avenue were examined and considered in the AIMSUN model to determine operational performance and mitigation. As these are not key intersections for the assessment, LOS results have not been reported for these intersections.</p>	Section 7 and Appendix M of the EIS.
Operational Traffic Impacts: M5 Interchange Upgrades	<p>The Arcadis Operational Traffic Report (M5 Motorway / Moorebank Avenue Intersection, Section 5.4.3) provides details of proposed upgrades for the interchange. Upgrades to the intersection are required primarily to cater for the MPW generated traffic and includes providing additional capacity on westbound onramp, eastbound off-ramp and increased storage lengths of the existing (two-lane) right turn bay on Moorebank Avenue northern approach. Changes to the signals to vehicle actuation to improve the performance of the west and north approaches are proposed.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) There is not support traffic analysis to indicate the extension of the proposed upgrades. It is not clear if a back of queue analysis has been undertaken for the storage lane capacity. 	<ul style="list-style-type: none"> a) The impact of queueing at intersections and between intersections were examined in the AIMSUN modelling so that they do not adversely impact on lane/intersection capacity and network operation. b) Ramp capacity has been examined in the AIMSUN modelling through the use of micro-simulation pockets within the AIMSUN model. For example, the operation of the Moorebank Avenue on/off ramps and weaving/merging of vehicles on the M5 main carriageway have been considered in the AIMSUN model. c) No mid-block LOS analysis were undertaken for this assessment and only intersection LOS assessments were undertaken. In general, it is the capacity of intersections rather than the mainline that limits road network capacity. Having said that, the impacts of inadequate mid-block lane capacities/LOS were taken 	Section 7 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
	<p>b) It is not clear if a ramp capacity has been undertaken. On-ramps and off-ramps of the interchange may not cater for the additional traffic spilling back into the interchange or main carriageway of the motorway.</p> <p>c) There is no evidence in the reports for lane capacity – midblock level of service (LoS) on the M5 main carriageways with or without the Project.</p> <p>d) There is no evidence for an assessment of the weaving and merging issues at the bridge between the M5 ramps of Moorebank Avenue and the Hume Highway. The existing conditions on the M5 Motorway are not listed in the report. It is not clear if the traffic impact assessment has considered the impacts on the Motorway.</p> <p>Over 70% of the total of heavy vehicles generated by the Project are proposed to use the M5 Motorway west of Moorebank Avenue.</p>	<p>into account in the intersection performance assessment in the AIMSUN modelling. The delays/congestion due to inadequate mid-block lane capacities and weaving/merging of vehicles on the M5 main carriageway would be reflected in the intersection performance (i.e. congestion on the M5 mainline would delay vehicles entering the M5 mainline and cause vehicular queues to back-up on to the intersection).</p> <p>d) The traffic study area adopted for assessment comprises a wider area and core study area as shown in Figure 2-1 of the Operational Traffic and Transport Impact Assessment (OTTIA) Report. As mentioned in the OTTIA, these areas are derived from investigations based on previous modelling undertaken using the Liverpool Moorebank Arterial Road Investigation (LMARI) AIMSUN traffic model which has been used in this assessment and required by Roads and Maritime. Using the AIMSUN model, detailed analysis and modelling have been conducted for the M5 Motorway and intersections on the M5 Motorway including:</p> <ul style="list-style-type: none"> a. M5 Motorway / Moorebank Avenue b. M5 Motorway / Hume Highway c. M5 Motorway / Heathcote Road. <p>The impact of weaving and merging traffic between these interchanges along the M5 Motorway including the M5 ramps of Moorebank Avenue and the Hume Highway have been considered in the AIMSUN modelling their impacts reported in the OTTIA in terms of the intersection LOS at the M5 Motorway / Moorebank</p>	

Aspect	Comment	Response	Reference
Operational Traffic Impacts: Crashes on Moorebank Avenue	<p>The Arcadis Operational Traffic Report (Impact on Crashes / Accidents, Section 5.10) indicates that the net impact of the additional traffic generated by the Project, as well as the proposed access points and improvements associated with the Project would result in an increase from 10.2 crashes per year to 11.6 crashes per year.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) There is no evidence of the details of the analysis undertaken to estimate the increased number of crashes in the local area. It is not clear if the analysis has considered the type of vehicle increment, background traffic growth and changes in the travel patterns. b) Assuming the above mentioned increased of crashes in the local area, there is no evidence in the report for a black spot assessment under existing conditions or future conditions. c) The Report states that the proposed access points and improvements associated with the Project would increase the number of crashes. There is no evidence in the report for mitigation measures to reduce or eliminate safety risks for any road users. 	<p style="text-align: center;">Avenue and M5 Motorway / Hume Highway intersections.</p> <ul style="list-style-type: none"> a) A high level approach has been adopted to assess the impact on crashed/accidents on Moorebank Avenue between the M5 Motorway and Cambridge Avenue. Future year crash rates were estimated based on the expected increases in traffic volumes on Moorebank Avenue which included consideration of current traffic volumes, vehicles types and the anticipated growth in the background traffic and the addition of Proposal traffic. b) Arcadis has assessed the crash trends on a network level which includes M5 Motorway (and its three interchanges with Moorebank Avenue, Hume Highway and Heathcote Road), Moorebank Avenue (north and south of M5 Motorway), Anzac Road, Cambridge Avenue, Moorebank Avenue/Newbridge Road intersection, and Moorebank Avenue/Heathcote Road intersection. Notwithstanding, the criteria for a blackspot is 3 casualty crashes over the most recent 5-year period. The high-level assessment conducted in the OTTIA does not trigger this criterion i.e. 2 fatalities over a 5-year period from 2010 to 2015 and at two geographically separate locations (refer to Figure 2-4 of the OTTIA - Appendix M of the EIS). c) All proposed carriageway and intersection upgrades will undergo Road Safety Audits throughout the design process designed to remove or mitigate any potential safety risk. Further mitigation measures are proposed as part of the OTTIA and Preliminary Operational Traffic Management Plan (POTMP) (Appendix M of the EIS) to reduce the safety risk for all road users. These mitigation measures are 	<p>Section 7 and Appendix M of the EIS.</p> <p>Section 8 of this RTS.</p>

Aspect	Comment	Response	Reference
Operational Traffic Impacts: Public Transport	<p>The Arcadis Operational Traffic Report (Impact on Bus Public Transport, Section 5.11) indicates that to improve bus transport access to the precinct, additional bus stops are proposed on the internal road in order to ensure a 400m walking distance to all proposed warehouses and offices.</p> <p>Relevant Issues for Clarification:</p> <p>a) It is acknowledged that location of bus stops within the Project are to be provided in further stage of the design process. There is no evidence for a conceptual bus route or future walking catchment areas indicating the potential need for the internal circulation of buses.</p> <p>Potential safety issues and traffic conflicts may be generated between the heavy vehicles access and public transport route.</p>	<p>summarised in Section 22 of the EIS and Section 8 of this RtS.</p> <p>Section 7.3 of the EIS, and 5.11 of the OTTIA (Appendix M of the EIS) discusses the rationale and need for bus stops to be provided on the internal road for the Proposal.</p> <p>Figure 7-4 of the EIS illustrates the potential walking and cycling catchment for pedestrians (pedestrian attractors) within the Proposal. Bus stop locations, in accordance with future consultation with TfNSW, would likely be situated in accordance to pedestrian attractors as outlined in Figure 7-4 of the EIS. Proposed pedestrian and cyclist connectivity within the site is illustrated in Figure 7-14 of the EIS, which considers pedestrian attractors alongside internal pedestrian link and walkways to manage risk with heavy vehicle interaction. Drawings showing the internal road cross section and bus swept path geometry are provided in Revised Stormwater and Drainage Design Drawings located at Appendix H of this RtS.</p>	<p>Sections 7, 22 and Appendix M of the EIS.</p> <p>Appendix H of this RtS</p>
Operational Traffic Impacts: Emergency Services	<p>There is no information in the Arcadis Traffic Assessment report for emergency services access, evacuation and alternate travel routes.</p> <p>The Project proposes only one access to the Project precincts by the Anzac Road and Moorebank Avenue signalised intersection. The Project also proposes two exits, but only one of this exit points provides full connectivity to the local network; i.e. Moorebank Avenue SB and Anzac Road EB.</p> <p>Relevant Issues for Clarification:</p> <p>a) It is inconsistent the proposed accessibility configuration strategy summarised above with the Arcadis Report Bushfire Protection Assessment, Section 4.2.</p>	<p>Section 7.4 of the EIS outlines that all access points during construction of the Proposal would be made available for emergency access, should the need arise. This section also mentions that further consideration for emergency access would be made during the preparation of the site safety and incident management plans.</p> <p>Emergency evacuation is discussed in Section 20.2 of the EIS and would be considered within the fire safety and evacuation plan to be prepared as part of the OEMP.</p> <p>a) The proposed accessibility configuration presented in Section 7.4 of the EIS is consistent with that described in Section 4.2 of the Bushfire Protection Assessment Report (Appendix W of the EIS). As stated in the EIS, operational access/egress would be provided to emergency service</p>	<p>Section 7 and Appendix M of the EIS.</p> <p>Section 8 of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>b) The Planning for Bushfire Protection 2006 Objective; 'Ensure that safe operational access and egress for emergency service personnel and residents is available' appears to be met partially. The Compliance statement indicates that safe, alternate egress from the Project site is provided onto Moorebank Avenue. The second egress identified for the Project is via Bapaume Road, this exit only provides access to Moorebank Avenue northbound.</p> <p>Considering that the nearest fire brigade station is located on Anzac Road, the accessibility to and from the fire station and the Project can only be performed via the Moorebank Avenue and Anzac Road intersection.</p>	<p>personnel from Moorebank Avenue, with <i>"multiple access points from the Proposal site, onto Moorebank Avenue"</i> referring to both the Moorebank Avenue / Anzac Road Proposed intersection and Moorebank Avenue / Bapaume Road intersection (exit only).</p> <p>b) Access would generally only be required one way from the fire station which would be sufficiently provided via the upgraded Anzac Road and Moorebank Avenue intersection. During operation, emergency vehicle access would be managed through an Emergency Vehicle Response Plan developed under the OEMP for the Proposal.</p>	
Operational Traffic Impacts: Mitigation Measures and Network Improvement	<p>The Arcadis Operational Traffic Report (Potential Infrastructure Upgrades, Section 6.1, Table 6-1) indicates that the current configuration on Anzac Road (eastern approach) will be retained.</p> <p>Relevant Issues for Clarification:</p> <p>a) SIDRA intersection summary of results are not provided for revision. It is not possible to identify if the proposed intersection configuration, changes to signal timing and traffic volumes are impacting the lane capacity storage and performance of the Anzac Road approach.</p> <p>b) The mitigation measures listed in Table 6-1 of the Arcadis Operational Traffic Report do not indicate the proposed changes to Bapaume Road as listed in Section 5.4.2.</p> <p>c) Assessment of the intersections with and without the Project and direct impacts due to traffic generated by</p>	<p>a) AIMSUN modelling was used for the operational assessment of the Moorebank Avenue/Anzac Road intersection in Section 7 of the EIS and the OTTIA (refer to Appendix M of the EIS). The AIMSUN modelling examined and considered the intersection configuration, traffic volumes and signal timings for the intersection. As per the Roads and Maritime guidelines, only the intersection LOS was required to be reported from the AIMSUN model.</p> <p>b) As part of the Proposal, the Moorebank Avenue/Bapaume Road intersection will be changed from an all-movement three-leg priority controlled intersection to a Left-out Only intersection, which is a simpler intersection layout and is not a mitigation measure at the change is not proposed in response to a potential impact. As such, an intersection analysis was not conducted for this intersection. Ramp capacity has been examined in the AIMSUN modelling through the use of micro-simulation pockets</p>	Section 7 and Appendix M of the EIS. Section 6 of this RTS

Aspect	Comment	Response	Reference
	<p>the Project are diluted within the overall performance of the analysed intersections presented.</p> <p>There is no detailed information from the intersection assessment to review direct impacts on particular movements at each intersection.</p> <p>The traffic generated by the Project may not have a direct impact to the overall performance of the intersection, however key movements may be directly related to the traffic generation, i.e. westbound on-ramp and eastbound off-ramp of the M5 Motorway interchange will receive the majority of the heavy vehicles of the Project. The information provided does not indicate if without the Project the mentioned ramps would still operate satisfactory or if only background traffic growth deteriorates the performance.</p>	<p>within the AIMSUN model. The operation of the Moorebank Avenue on/off ramps and weaving/merging of vehicles on the M5 main carriageway have been included in the AIMSUN modelling and reported in the resulting overall intersection performance. As per the RTA Guidelines only the intersection Level of Service from the AIMSUN model needs to be reported for the assessment.</p>	
Operational Traffic Impacts: Active Transport Provision	<p>The Arcadis Operational Traffic Report (Public Transport and Active Transport Provision) indicates that Bicycle and end of trip facilities would be provided in accordance with the City of Sydney Section 3 – General Provisions.</p> <p>Relevant Issues for Clarification:</p> <ol style="list-style-type: none"> a) There is no evidence of a bike plan assessment and compliance with the Liverpool requirements. b) Section 2.7.2 Active Transport describes the existing conditions of the cycle infrastructure. The traffic generated by the Project, particularly the increase in heavy vehicles, which may create some traffic conflicts with cyclists on the road shoulders. c) There is no information for turning paths for large vehicles at key intersections. Large vehicles may conflict with cyclists. 	<ol style="list-style-type: none"> a) Arcadis has undertaken a review of the relevant bicycle facilities guidelines attributed to similar types of development throughout the Greater Sydney Metropolitan Area and NSW. The review included the following guidelines: <ul style="list-style-type: none"> ▪ Liverpool City Council DCP 2008, Part 1, General Controls for All Developments ▪ City of Sydney Section 3 - General Provisions ▪ DIPNR (referred to currently as the Department of Planning and Environment) <i>Planning Guidelines for Walking and Cycling 2004</i> <p>The Liverpool DCP did not break down controls into individual land uses and used a generalised approach, which is not considered suitable for this type of development. The City of Sydney Section 3 – General Provisions was</p>	Section 7 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
		<p>considered a suitable guideline in that it specified bicycle provisions for individual land uses, similar types of development and providing a standard which is satisfactory (i.e. did not over or under provide).</p> <p>b) The Proposal would not involve any alterations to the Moorebank Avenue carriageway, and cycling along the sealed and marked shoulders of Moorebank Avenue would remain suitable. The Proposal would not result in any adverse impact to cycle accessibility. It is proposed that off-road pedestrian/cycle paths and on-road cycle provisions will be provided within the Proposal site along the internal perimeter road. Figure 2-6 of the OTTIA shows the proposed connectivity between the Proposal site and the surrounding network.</p> <p>c) The Moorebank Avenue/Anzac Road intersection including the proposed MPW roundabout (which provides access to the Terminal) and the Moorebank Avenue/Bapaume Road have been designed to cater for an A-Double truck with a curb to curb turn radius of 15m. Key intersections will be signalised with signalised pedestrian crossing facilities which is available for cyclists.</p>	
<p>Construction Traffic Impacts: Construction Vehicles Type</p>	<p>It is not possible to assess the vehicle type and dimension of the proposed construction vehicles accessing the site (i.e. rigid, trucks, truck and dog, etc.).</p> <p>Relevant Issues for Clarification:</p> <p>a) There is no evidence of vehicle types proposed for the construction activities and maximum dimensions for the design vehicle.</p> <p>b) There is no evidence if oversized vehicles are proposed or required for the construction activities and how the</p>	<p>a) Indicative plant and equipment (including construction vehicles) proposed for each construction works period of the Proposal is provided in Appendix A, Table A-2, of the CTIA refer to Appendix M of the EIS).</p> <p>b) Please refer to Section 5.10 of the CTIA (Appendix M of the EIS) which discusses the mitigation measures which would be implemented should an oversized vehicle need to gain access to the Proposal site.</p>	<p>Section 7 and Appendix M of the EIS.</p>

Aspect	Comment	Response	Reference
	Project would mitigate any traffic conflict associated with entering or exiting the Project site.		
Construction Traffic Impacts: Turning Paths – Construction Vehicles	<p>It is not possible to assess the intersection geometry of the current or proposed intersections for a specific design vehicle.</p> <p>Relevant Issues for Clarification:</p> <p>a) There is no evidence of truck turning swept paths. There is a risk that large construction vehicles may not have adequate turning paths to enter or exit the sites and conflicting with local traffic at the intersections.</p>	<p>The following intersection would be configured to allow heavy vehicle access during relevant stages of construction (refer to the CTIA, Appendix C of this RtS):</p> <ul style="list-style-type: none"> • Moorebank Avenue / Bapaume Road • Moorebank Avenue / Anzac Road • Moorebank Avenue / Chatham Avenue <p>Swept paths indicating intersection geometry for single unit, B-Double, Super B-Double and A-Double vehicles for key operational intersections are provided in Appendix H of this RtS.</p>	Appendix H of this RtS
Construction Traffic Impacts: Haulage Route	<p>The Arcadis Construction Traffic Report (Construction traffic Distribution, Section 4.2) indicates that there can be minor truck movements via Cambridge Avenue for disposal of unsuitable material.</p> <p>Relevant Issues for Clarification:</p> <p>a) Report does not indicate place for disposal of unsuitable material according to the Development Consent – Transport and Access Clause D11, (June 3 2016). Heavy vehicles via Moorebank Avenue (south) / Cambridge Avenue during early works are not permitted, with the exception of heavy vehicles travelling to and from the Glenfield Waste Facility.</p>	Disposal of unsuitable material is referring to the removal and disposal of asbestos to the Glenfield Waste Facility via Cambridge Avenue. No other construction related heavy vehicles will be permitted to use Cambridge Avenue.	Section 7 and Appendix M of the EIS.
Construction Traffic Impacts: Construction Program –	The Arcadis Construction Traffic Report (Forecast Level of Service Scenario 1 and 2, Sections 5.5 and 5.6) provides details of the construction traffic on exiting conditions for the intersections of Moorebank Avenue and Anzac Rd and	a) Each of the construction traffic scenarios assessed are based on conditions predictive of background traffic growth, and not on existing conditions. A revised CTIA has been provided as an addendum to this RtS (refer to Appendix C), which presents modelling for two scenarios during construction of	Section 7 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
Intersection Performance	<p>Moorebank Avenue and the M5 Motorway. (Refer to Tables 5-4, 5-5, 5-6 and 5-7 of the Arcadis Report).</p> <p>Relevant Issues for Clarification:</p> <p>a) Works Period C duration listed in Table 3-1 indicates that construction program will continue until 2020. The Intersection assessment for construction activities are only referring to existing conditions.</p> <p>It is not possible to assess based on the information provided in the Arcadis Construction Traffic Impact Assessment if in year 2020 during Work Period C, (highest construction vehicles generation) the intersections adjacent to the Project would operate at satisfactory level of service.</p> <p>b) The Arcadis Operation Traffic and Transport Impact Assessment indicates in Section 4.2, Tables 4-2 and 4-3 that the intersections of Moorebank Avenue with Anzac Road and the M5 Motorway will operate at near capacity during the AM peak and failed during the PM peak without the operational traffic generated from the Project.</p> <p>It is not possible to identify in the reports if the construction traffic generated from and to the site during the AM and PM peak would deteriorate the traffic performance of the above mentioned intersections. There is a risk that Works Period C with the highest traffic volumes may deteriorate the conditions of the exiting intersections approaching capacity.</p> <p>c) The results for the existing conditions for year 2015 assessment listed in the Arcadis report Operation Traffic Impact Assessment, Table 3-4 indicates a LoS of C and 31 seconds delay in both peak periods. This is</p>	<p>the Proposal. These scenarios represent the worst case (peak) construction period (overlap in works periods C, D, E and F) for construction of the Proposal only, and a worst case cumulative construction scenario, which considers the concurrent construction of the Proposal (worst case (peak) period) with construction works period 3 of the MPE Stage 1 Project. These two scenarios are considered 'worst-case' and provide a conservative assessment of potential construction traffic impacts and is anticipated that this would occur in 2018 (refer to cumulative construction program provided in Appendix P of this RtS). An assessment of construction traffic impacts in 2020 with traffic from Works Period C only would not represent a worst case traffic scenario, and has therefore not been assessed as part of the CTIA in the EIS (Appendix M), or the revised CTIA included at Appendix C of this report.</p> <p>b) Section 4.2, Tables 4-2 and 4-3 of the OTTIA (refer to Appendix M of the EIS) show that both the Moorebank Avenue with Anzac Road and the M5 Motorway intersections would operate satisfactorily in 2019 without the Proposal. However, both intersections are expected to perform unsatisfactorily in 2029 without the Proposal. Construction of the Proposal would have ceased well before 2029 (i.e. construction completed in 2020). The assessment conducted in the revised CTIA (Appendix C of this RtS) demonstrates satisfactory intersection performance for worst case construction and cumulative scenarios for both the Moorebank Ave and M5 and Moorebank Ave and Anzac Road intersections as discussed in (a) above.</p> <p>c) It has been determined that there is a typographical error within the OTTIA, the results for the M5 Motorway / Moorebank Avenue intersection should be the same as those reported within the CTIA.</p>	Appendix C of this RtS

Aspect	Comment	Response	Reference
	<p>inconsistent with the information displayed in Table 5-3 of the Construction Traffic Impact Assessment summarising the intersection performance for the same existing conditions.</p> <p>d) The Operation Traffic report indicates that the opening of the Moorebank Avenue and Anzac Road intersection will occur in 2019 (Refer to Arcadis Operation Traffic report Table 6-1).</p> <p>There is a discrepancy in the opening year proposed in the Operational Traffic Report and the requirements for construction access as listed in the Arcadis Construction Traffic Report Section 5, Table 5-1.</p> <p>There is a need for a construction access for trucks on Moorebank Avenue and Anzac Road in year 2018.</p> <p>e) There is no evidence in the Construction Traffic Report if an interim intersection / temporary access is proposed at the Moorebank Avenue – Anzac Road prior to the opening of the upgraded intersection.</p> <p>f) There is no evidence of the intersection performance of Moorebank Avenue, Anzac Road and M5 Motorway in period 2018-2019. This period appears to have yielded the highest construction traffic generation without the implementation of the proposed upgrades.</p>	<p>d) As part of the Amended Proposal, the Anzac Road / Moorebank Avenue intersection would be upgraded. The upgrades to this intersection would be undertaken in stages up to 2019, at which time the final upgraded intersection would be operational. During the staged construction of this intersection upgrade, Proposal construction traffic and other background traffic would continue to travel along Moorebank Avenue. Separate construction sensitivity testing was undertaken for each broad intersection construction stage to determine the proportion of construction traffic that could access and egress the Proposal site via the Moorebank Avenue/ Anzac Road and/ or Moorebank Avenue/ Chatham Avenue intersections while still performing at an acceptable Level of Service (LoS).</p> <p>e) Please see response to (d) above</p> <p>f) A revised CTIA has been provided as an addendum to this RtS (refer to Appendix C of this report), which presents modelling for two scenarios during construction of the Proposal. These scenarios represent the worst case (peak) construction period (overlap in works periods C, D, E and F) for construction of the Proposal only, and a worst case cumulative construction scenario, which considers the concurrent construction of the Proposal (worst case (peak) period) with construction works period 3 of the MPE Stage 1 Project. These two scenarios are considered ‘worst-case’ and provide a conservative assessment of potential construction traffic impacts and is anticipated that this would occur in 2018 (refer to cumulative construction program provided in Appendix P of this RtS). As detailed in section 6.1 of the revised CTIA (Appendix C of this report) The performance of the Moorebank Avenue/ Anzac Road intersection and the Moorebank Avenue/ M5 Motorway</p>	

Aspect	Comment	Response	Reference
Construction Traffic Impacts: Road Occupancy Licence	<p>There is no evidence in the report for the road occupancy licence process. The Arcadis Construction Traffic Report (Section 5.7.1) indicates that there may be a possibility that part of Moorebank Avenue would need to be closed from time to time.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) There is no indication for the duration of closures or suggested period lengths. b) There is no indications of traffic detouring and traffic management. c) There is no indication if a full closure or partial closure may be required and if opening at all times for through traffic will be maintained. 	<p>interchange during these worst case construction traffic scenarios would operate acceptably.</p> <ul style="list-style-type: none"> a) Should a road closure be required as a result of the construction of the Proposal, the appropriate application and consultation process will be sought in accordance with the CEMP and CTMP which is to be produced by the construction contractor. This will be subject to approval by DP&E. The duration of road closures will be determined by the construction contractor whereby appropriate steps to mitigate adverse impacts will be presented, if necessary. Section 5.2 of the Preliminary Construction Traffic Management Plan (PCTMP - refer to Appendix M of the EIS) provides guidance on potential road closures. b) Please see response to (a) above c) Please see response to (a) above 	Section 7 and Appendix M of the EIS.
Construction Traffic Impacts: Mitigation Measures	<p>The Arcadis Construction Traffic Report (Section 5.12) indicates that a road safety audit would be undertaken on Cambridge Avenue to identify potential traffic safety risks from the Project.</p> <p>Relevant Issues for Clarification:</p> <ul style="list-style-type: none"> a) It is not clear if the Moorebank Avenue intersections during construction activities or operational would require a road safety audit indicating how risks to cyclists on shoulder and pedestrian could be mitigated. 	<p>All proposed carriageway and intersection upgrades will undergo Road Safety Audits throughout the design process to identify any potential safety risk for removal or mitigation. Additionally, traffic management plans are required by the SEARs, both in the construction and operations phases to manage the safety risks for all road users. Please see mitigation measures proposed as part of the CTIA, PCTMP and POTMP (refer to Appendix M of the EIS).</p>	Section 7 and Appendix M of the EIS.
Construction Traffic Impacts: Traffic Generation	<p>The Arcadis Construction Traffic Report (Appendix A, Tables A-6 and A-7) indicate that during Scenario 2 (year 2018) there would be some construction traffic entering the site via Moorebank Avenue and Bapaume Road.</p> <p>Relevant Issues for Clarification:</p>	<ul style="list-style-type: none"> a) Based on the current construction program, it is anticipated that the proposed changes to Bapaume Road would occur within the first half of 2019; however, this is subject to approvals and the actual timeframe for this may differ. The construction traffic scenarios presented in the CTIA (refer to Appendix M of the EIS and Appendix C of this Rts) and the 	<p>Section 7 and Appendix M of the EIS.</p> <p>Appendix C of this Rts</p>

Aspect	Comment	Response	Reference
	<p>a) It is not clear the year when the proposed Bapaume Road intersection upgrade (right turn in banned) would be implemented.</p> <p>b) It appears that the forecast traffic south of Moorebank Avenue and Chatham Avenue is too high in comparison to the proposed limited access for construction vehicles using this route, use only for accessing the Glenfield Waste Facility in accordance to the Development Consent.</p>	<p>revised CTIA (refer to Appendix C of this RtS) have been modelled based on worst case construction being in 2018.</p> <p>b) No construction related traffic will be permitted to access Cambridge Avenue with the exception of minor truck movements via Cambridge Avenue for the disposal of unsuitable material (i.e. asbestos). The traffic volumes of traffic south of Chatham Avenue in Tables A-6 and A-7 of the CTIA (refer to Appendix M of the EIS) are mainly due to background traffic growth i.e. 946 vehs/hr (AM) and 446 vehs/hr (PM) in 2015 and increasing to 1002 vehs/hr (AM) and 460 vehs/hr (PM) in 2018 for both Scenarios 1 and 2.</p>	
Human Health			
Traffic assumptions	Noise and Air Quality impacts on human health during both construction and operation are likely to be greater than identified in the EIS due to the traffic assumptions used.	It is unclear what traffic assumptions in particular are being referred to. The noise and air quality impacts on human health during operation of the Proposal (refer to Section 10 of the EIS) and cumulative assessment (refer to Chapter 19 of the EIS) have been evaluated using the same traffic assumptions used in the OTTIA (refer to Appendix M of the EIS).	Section 7, 10, 19 and Appendix M of the EIS.
	The review of the traffic and transport movements associated with the Project identified that the Project would impact on road congestion in proximity to the site, noise, air quality, visual amenity and subsequently human health and thus a thorough assessment of the traffic environment and associated impacts is critical for both the construction and operational stages.	<p>Section 7 of this EIS provides a construction and operational traffic assessment for the Proposal. The assessment concludes that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of the proposed mitigation and management measures.</p> <p>The noise, air quality, human health and cumulative impact assessments undertaken for the Proposal considered the findings of the traffic assessment.</p>	Sections 7, 8, 9, 10, 19 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
Noise impacts	<p>As local residents are currently exposed to unacceptable levels of rail noise, which are understood to be above World Health Organisation community noise guideline criteria, it is implied that they are able to tolerate future noise level exceedances. If existing rail noise is identified as an issue for sensitive receivers, it is concerning that the Project is being considered without amelioration of noise levels from the Southern Sydney Freight Line. In addition to existing sources, further intensive development in this region is likely to result in background noise creep which may lead to a greater potential for annoyance and impacts on amenity and sleep disturbance.</p>	<p>As outlined within Section 10.4 of the EIS, marginal exceedances of relevant criteria exist for the suburbs of Casula and Glenfield from operational rail noise. These values only marginally exceed 1, which indicates that rail noise may result in a small increase in the risk of health outcomes to the community, if left unmitigated.</p> <p>Further analysis however indicates that, when analysed in conjunction with existing ambient noise levels (refer to Table 10-11 of the EIS), there is no recorded recognisable difference between the existing ambient and total noise levels in each of the three noise catchments, indicating that the Proposal would have little impact on the local area, and that the existing ambient noise is the major contributor to the total noise affecting these residential receivers.</p> <p>To understand the incremental impacts of the Proposal further, an additional rail noise impact assessment was undertaken as part of this RtS to more accurately predict the impact of the Proposal on L_{Aeq} rail noise at sensitive receivers, including those at Casula (refer to Section 7 and Appendix D of this RtS).</p> <p>The revised assessment predicted that Proposal rail noise levels would generally comply with established NSW Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula (RM1). At this location, it is demonstrated that the Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does not warrant mitigation.</p> <p>It should be noted that the existing rail noise levels are greater than the contribution from the Proposal, and they are below the</p>	<p>Section 8, 10, Appendix N and Appendix P of the EIS.</p> <p>Section 7 and Appendix D of this RtS</p>

Aspect	Comment	Response	Reference
		RING criteria for a redeveloped rail line, which are 65 dBA L _{Aeq, 15 hour} and 60 dBA L _{Aeq, 9 hour} for daytime and night time, respectively.	
Freight Village	<p>Also, the precinct amenities/freight village will include a takeaway/café, commercial premises, car parking and an outdoor seating area. If issued, the consent will require detailed floor and section plans for the food premises to be submitted to the Department prior to the issue of the construction certificate. The plans shall demonstrate compliance with the <i>Food Act 2003</i>, Australia New Zealand Food Standards Code and Australian Standard AS 4674-2004 <i>Design, Construction and Fit-Out of Food Premises</i>.</p> <p>Additionally, the Department should confirm whether regulated systems as defined under the <i>Public Health Act 2010</i> and <i>Public Health Regulation 2012</i>, such as warm water or water-cooling systems will be installed on the premises.</p>	<p>As detailed in Section 4 of the EIS, any food premises located within the freight village would be constructed and operated to meet legislative requirements and Australian Standards (as relevant), including:</p> <ul style="list-style-type: none"> AS 4674-2004: Design, construction and fit out of food premises AS 4322-1995: Quality and performance of commercial electrical appliances - Hot food storage and display equipment AS ISO 22000—2005: Food safety management systems— Requirements for any organisation in the food chain. <p>In addition, operations for food premises within the freight village would comply with the Australia New Zealand Food Standards Code.</p> <p>Floor plans, elevations and sections for the freight village are provided in Architectural Drawings, located in Appendix D of the EIS and (as updated) in Appendix B of this RtS.</p>	<p>Section 4 and Appendix D of the EIS.</p> <p>Appendix B of this RtS.</p>
Recommendations	<p>The recommendations below are identified to address the identified human health impacts and to allow a comprehensive assessment of the Project:</p> <ul style="list-style-type: none"> Further commitments are required, prior to consent being issued, to reduce exposure to existing unacceptable noise levels from the SSFL and identify opportunities to mitigate noise impacts arising from the Project. Council's Environment and Health Section also supports a 	<ul style="list-style-type: none"> Management of noise levels associated with the SSFL is outside the scope of this proposal. The assessment demonstrates that the Proposal would result in an increase in the night time L_{Aeq,period} rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does not warrant mitigation During consultation for the EIS, NSW Health were informed of the approach for the human health risk assessment. NSW Health have had an opportunity to review and comment on the 	<p>Section 4, 6 and Appendix D, N and O of the EIS</p> <p>Section 6, 7 and 8, and Appendix K of this RtS</p>

Aspect	Comment	Response	Reference
	<p>comprehensive review of the EIS and Health Risk Assessment by NSW Health.</p> <ul style="list-style-type: none"> • If the Project is approved, all best practice measures outlined in the Air Quality Best Practice Review (Appendix O of the EIS) should be implemented to further reduce air pollution levels and the associated health risks. • If the Project is approved, all best practice measures outlined in the Noise and Vibration Impact Assessment (Appendix N of the EIS) should be implemented to further reduce noise and vibration impacts and the associated health risks to the community. • Plans for the freight village (precinct amenities area including café, commercial premises, car parking and an outdoor seating area) should demonstrate compliance with the <i>Food Act 2003</i>, Australia New Zealand Food Standards Code and Australian Standard AS 4674-2004 Design, Construction and Fit-Out of Food Premises prior to consent being issued. • Further information should be provided clarifying whether regulated systems as defined under the <i>Public Health Act 2010</i> and <i>Public Health Regulation 2012</i>, such as warm water or water-cooling systems will be installed on the premises prior to consent being issued. • Air quality and noise/vibration impacts can directly impact on the health and wellbeing of the surrounding community and thus the HRA (Ramboll Environ, 2016) and EIS (Arcadis, 2016) should be reviewed and revised in consideration of any further amendments to either the detailed air quality and/or noise and vibration impact assessments. 	<p>approach and outcomes of the human health risk assessment during adequacy assessment and public exhibition (refer to Section 6 of the EIS).</p> <ul style="list-style-type: none"> • Revised best practice measures to be implemented for the Proposal are outlined in the Best Practice Complementary Review provided in Appendix K of this RtS. This document aims to outline initial and on-going implementation of best practice measures for the operation of the fleet (locomotives, wagons and trucks) and equipment (reach stackers) associated with the Proposal. These updated best practice measures have been included within the mitigation measures included in Section 8 of this RtS. • Refer to comment above re: confirmed application of AS standards, ANZ Food standards code and inclusion of plans in Architectural Drawings, located in Appendix D of the EIS and (as updated) in Appendix B of this RtS. • As detailed in Section 4 of the EIS, any food premises located within the freight village would be constructed and operated to meet legislative requirements and Australian Standards (as relevant). Premises will be exempt from warm-water systems (as per clause 5(1)(b) of the <i>Public Health Regulation 2012</i>). • Section 6 of this RtS outlines amendments made to the original Proposal design since exhibition of the EIS. Section 7 of this RtS provides the additional environmental assessment (building on that undertaken for the EIS) associated with amendments described, and additional mitigation measures associated with any changes are provided in Section 8 of this RtS. This process ensures that any changes to the design proposed as a result of refinement or submissions are assessed and managed accordingly. Assessment of the 	

Aspect	Comment	Response	Reference
		<p>Amended Proposal (refer to section 7 of this RtS) concluded that the amendments would result in construction and operational phase air quality impacts generally consistent with those already identified and assessed as part of the EIS, and thereby proposed no new mitigation measures. A similar assessment finding and outcome was recorded for an assessment of noise impacts (refer to Section 7.1.2 of this RtS).</p>	
Air Quality			
Emission Inventory	<ul style="list-style-type: none"> The emissions inventory includes assumptions that are not qualified in the context the Project, and appear to reflect levels of activity that are inconsistent with the Project. The emissions inventory is based on annual average quantities, not differentiating between peak and average emission scenarios. The derivation of emission rates from annual inventory quantities is considered appropriate for the estimation of annual average pollutant impacts. Noting this, the use of annual average quantities (as applied within the AQIA) is considered optimistic for the assessment of short-term criteria (24 hours and less), where emissions should either reflect peak levels of activity that occur under routine operations, or address the variability of emissions directly within the model. 	<p>All assumptions used in the emissions inventory are based on information provided within Section 4 and 9 of the EIS that reflect proposed levels of activity for the Proposal.</p> <p>Generally, all assumptions for activity data are valid for assessment of both short-term and long term impact assessment. For example, train movements per annum are calculated based on train movements per day multiplied by 365 days of the year. We also assume that for every hour of the year there is a train idling and a train travelling within the site.</p> <p>Similarly, emissions for traffic are based on average daily truck numbers and therefore valid for the assessment of 24-hour impacts. The one exception is peak hour truck movements, however, the only metric that this is applicable to this is the 1-hour assessment criteria (i.e. NO_x). Truck movements account for less than 5% of the total site emissions of NO_x and therefore accounting for a peak traffic scenario would not result in any significant change to the modelling results and conclusion of the report.</p>	Section 4, 9 and Appendix O of the EIS.

Aspect	Comment	Response	Reference
Emissions from idling locomotives	<p>Within the AQIA, emissions from idling locomotives are estimated to form a significant contribution to Project emissions, comprising 35% and 20% of operational phase NOx and PM2.5 emissions (respectively). Furthermore, the relatively confined nature of these emission sources (e.g. 4 locomotives within a horizontal span of 80 m) means that these emissions possess a strong potential to produce localised peaks in predicted downwind pollutant levels.</p> <p>The AQIA incorporates statements around a number of conservative assumptions for the emission estimation for idling locomotives. Noting this, there appear to be a number of levels of optimism in these estimates, especially for the estimation of the influence of peak operations on potential short-term impacts (e.g. averaging periods of 24 hours and less).</p> <p>These relate primarily to the following:</p> <ul style="list-style-type: none"> • The adopted rate of fuel consumption at idle: The AQIA assumes 14 L/hr diesel consumption for locomotives at idle, as based on Lilley (1996). Qualification of this value is not provided. This value is lower than values applied in other publically available air quality assessments in New South Wales, which include: <ul style="list-style-type: none"> a. AECOM 2010 <i>Air Quality Impact Assessment – Mayfield Port-Related Activities Concept Plan</i>, AECOM Australia Pty Ltd, 19 July 2010. This study applies a value of 24 L/hr, approximately 70% higher than that adopted within the AQIA. 	<p>Adopted fuel consumption: The review undertaken questions the adopted rate of fuel consumption for idling (14 L/hr) and selected two other reports for comparison (which reported higher fuel consumption for locomotives - 24 L/hr and 18.9 L/hr). Recent (2016) testing of diesel locomotives by the NSW EPA⁵ measured idling fuel consumption for 81 class locos at 14.2 l/hr and for 90 class locos at 7.2 l/hr. This testing demonstrates that the adopted fuel consumption is appropriate for the assessment and far more realistic than the values suggested by LCC.</p> <p>Number of locomotives onsite: LCC appear to have misinterpreted how the emission estimates for locomotives were calculated. The AQIA has estimated emissions for both locomotives idling and travelling (entering / exiting the site). Locomotive shifting/shunting is also included. Therefore, for any one hour in the air quality model there will be a train idling, a train entering/exiting and loco shifter in operation. This is consistent with the noise assumption of eight locomotives (4 per train) within the rail terminal at any one time.</p>	Section 9.4 and Appendix O of the EIS

⁵ <http://www.epa.nsw.gov.au/resources/air/diesel-locomotive-emissions-report.pdf>

Aspect	Comment	Response	Reference
	<p>b. SKM 2003 <i>Port Botany Expansion – Air Quality Study</i>, SKM Pty Ltd, 05/06/2003 which applies a value of 18.9 L/hr (based on three separate references), approximately 40% higher than that adopted within the AQIA.</p> <p>The average of the AQIA, SKM and AECOM values would equate to a fuel consumption of 19 L/hr, approximately 35% higher than that adopted within the assessment.</p> <ul style="list-style-type: none"> The assumed number of locomotives on the Site: The AQIA assumes that one train, which includes 4 locomotives, is present for all hours of the year. In contrast, the noise impact assessment for the Project states: <ul style="list-style-type: none"> <i>“The client has advised that, on average, there would be eight locomotives within the rail terminal simultaneously. Some of the locomotives would be idling and stationary, while some would be moving along the length of the terminal.”</i> <p>If estimates were to be based on average fuel consumption values² and average locomotive numbers (as defined within the noise assessment), this would result in an emission estimate equal to approximately 270% of that adopted within the AQIA. Further, this increased estimate may be appropriate for the prediction of long term average impacts, but may not adequately capture routine peak activity rates, as suitable for the estimation of short term average impacts (e.g. averaging periods of 24 hours and less). The AQIA does not provide information on the maximum number of locomotives that would be on the site during peak operating</p>		

Aspect	Comment	Response	Reference
	<p>capacity, hence a suitable scenario for short-term operations is unclear.</p>		
Fleet utilisation	<p>Fleet utilisation values do not appear to reflect typical values or the operational capacity of the Project:</p> <ul style="list-style-type: none"> • Within the AQIA, emissions from reach stackers are estimated to form a significant contribution to Project emissions, comprising 27% and 46% of operational phase NOx and PM2.5 emissions (respectively). Section 5.3.2 of the AQIA states that “The proposal would employ up to 12 reach stacker ...it has been assumed each reach stacker would operate at a utilisation of 50%.” <p>For this class of equipment, a fleet utilisation of 50% is considered unrealistic both for the estimation of long term and short term pollutant impacts, where given the associated capital investment, it would not be common practice to stable 50% of the fleet for the duration of the Project. Values of 85% (e.g. 10 reach stackers in use / 2 in storage) would be considered more consistent with typical fleet operations for such facilities, whilst 100% utilisation would reflect the capacity of the Project. 100% fleet utilisation has been assessed within the noise impact assessment as a scenario “unlikely to occur regularly”, but still within the operational capacity of the Project and suitable for assessment. Higher utilisation figures (85% - 100%) would result in a 70% - 100% increase in the inventory estimates, for what is estimated to be a key emission source group.</p> <ul style="list-style-type: none"> • Within the AQIA, emissions from LNG forklifts comprise 2% and 4% of operational phase NOx and PM2.5 emissions. Section 5.3.4 of the AQIA states that: “The warehousing area would employ up to 24 LNG forklifts and it is assumed that 	<p>The adopted utilisation rate is based on fleet average utilisation from existing intermodal facilities.</p> <p>It is important to realise that utilisation does not simply refer to equipment being “stabled”. For example, LCC might be correct to say that of the 12 reach stackers onsite, 10 would be in use and 2 would be in storage. However, of the 10 in use, not all 10 would be simultaneously undertaking operational activities 24/7. The utilisation therefore reflects this and accounts for downtime including pausing for other traffic onsite, shift changes, lunch breaks, etc. Consider this example; 500,000 TEU would be handled each year. It is conservatively assumed that each container is handled for 5 continuous minutes – i.e. remove container from train, stack in storage area, load a truck. This equates to ~40,000 hours of work in a year. 12 reach stackers operating at 50% utilisation for the year equates to over 50,000 hours of work, therefore the assumption is actually conservative in the context of the example above.</p> <p>Similar arguments can be made for the assumed utilisation for forklifts.</p>	Section 9.4 and Appendix O of the EIS

Aspect	Comment	Response	Reference																																								
	<p><i>each would operate at a utilisation of 50%.” As with the reach stackers, a fleet utilisation of 50% is considered unrealistic. Values in the vicinity of 85% would be considered more consistent with typical intermodal fleet operations. Adoption of an 85% fleet utilisation would result in an increase of 70% of LNG forklift emissions.</i></p>																																										
<p>LNG forklift emission estimates</p>	<p>The LNG forklift emission estimates do not appear consistent with the documented equations and input values. As an example, the following table provides an independent estimate of NOx emissions, as based on the inputs and equations provided in Section 5.3.4 of the AQIA.</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> <th>Units</th> <th>Basis</th> </tr> </thead> <tbody> <tr> <td>Fleet Number</td> <td>24</td> <td>-</td> <td rowspan="5">AQIA (Section 5.3.4)</td> </tr> <tr> <td>Fleet Utilisation</td> <td>50%</td> <td>-</td> </tr> <tr> <td>Engine Capacity</td> <td>224</td> <td>kw</td> </tr> <tr> <td>Operating Load Factor</td> <td>0.2</td> <td>-</td> </tr> <tr> <td>Operational Period</td> <td>8760</td> <td>hr/yr</td> </tr> <tr> <td>Operating Intensity</td> <td>4,709</td> <td>MWh/yr</td> <td>Calculated - Eq 3 (A)</td> </tr> <tr> <td>NOx Emission Factor</td> <td>0.7</td> <td>kg/MWh</td> <td>AQIA (Section 5.3.4)</td> </tr> <tr> <td>Calculated NOx Emissions</td> <td>3,297</td> <td>kg/yr</td> <td>Calculated - Eq 3 (A)</td> </tr> <tr> <td>AQIA Estimate</td> <td>2,336</td> <td>kg/yr</td> <td>AQIA (Section 5.3.4)</td> </tr> <tr> <td>Difference</td> <td>+41%</td> <td>-</td> <td>Calculated</td> </tr> </tbody> </table> <p>This difference appears for LNG forklifts across all pollutants. When considered in conjunction with a fleet utilisation of 85%, this would result in LNG forklift emissions that are approximately 240% higher than those adopted within the AQIA.</p>	Parameter	Value	Units	Basis	Fleet Number	24	-	AQIA (Section 5.3.4)	Fleet Utilisation	50%	-	Engine Capacity	224	kw	Operating Load Factor	0.2	-	Operational Period	8760	hr/yr	Operating Intensity	4,709	MWh/yr	Calculated - Eq 3 (A)	NOx Emission Factor	0.7	kg/MWh	AQIA (Section 5.3.4)	Calculated NOx Emissions	3,297	kg/yr	Calculated - Eq 3 (A)	AQIA Estimate	2,336	kg/yr	AQIA (Section 5.3.4)	Difference	+41%	-	Calculated	<p>The LCC calculation assumes an operational period of 24/7, however warehousing is proposed for 18 hours a day. Therefore, the operational hours for emissions estimates are not 8760, as assumed by LCC, but rather 6552 (18 hrs x 7 days x 52 weeks).</p> <p>The Amended Proposal, as described in Section 6 of this RtS, includes extending warehousing hours to 24/7, in line with the Traffic Impact Assessment of warehouse operations within the EIS.</p> <p>The change to 24 hour operations, as discussed in Section 7 of this RtS, would not increase the actual operational hours for forklifts as the total freight processed would remain the same (as per 18 hour/day operations), only diluted over a longer operational period. Thus the forklift utilisation is reduced on account of the longer operational hours. As such, the emissions modelled in the AQIA prepared for the EIS remain valid and appropriate.</p>	<p>Appendix O of the EIS</p> <p>Section 6, 7 and Appendix E of this RtS</p>
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Aspect	Comment	Response	Reference
Trucking	<p>Section 5.3.3 of the AQIA states that “Emission estimates for trucks in travel mode are assumed to account for the type of short term idling expected for the proposal, and therefore idling emissions are not considered separately.” The exclusion of specific idling emissions for intermodal trucking appears potentially optimistic.</p> <p>Idling would be typically expected at arrival, queuing and departure from the following points:</p> <ul style="list-style-type: none"> • Truck processing gates • Truck holding area • Truck loading areas • Weighbridges <p>Details of truck movement emission calculations have not been provided, accordingly these estimates have not been reviewed. It is noted that the truck emissions are based on emission factors for travel at 50 km/h.</p> <p>This value seems high for trucks travelling within the facility. This assumption is not qualified in the context of proposed speed limits for the Site, but may represent an underestimate if lower vehicle speeds are present (e.g. a site speed limit of 25 km/h).</p>	<p>In deriving emissions using the NSW EPA Air Quality Appraisal Toolkit, a “commercial arterial” road type for emissions estimation has been utilised. This road type is defined by Roads and Maritime as having “...<i>regular intersections, many signalised, characterised by stop start flow, moderate to high intersection delays...</i>”. The associated speed corrections used in the emissions factors are assumed, therefore, to take into account the types of driving behaviours and conditions expected for processing, waiting for loading/unloading etc., that would result in onsite idling.</p> <p>Furthermore, as outlined in the Best Management Practice (BMP) report, the site will develop and implement an anti-idling policy, so that unnecessary and excessive idling will be avoided (refer to Appendix K of this RtS).</p> <p>For simplicity in modelling, a travel speed of 50 km/hr is applied for the entire trip length (i.e. travel along Moorebank Avenue and onsite). If we had applied the 50km/hr speed to Moorebank Avenue only and the lower 25 km/hr for onsite travel, emissions of NOx would have been 8% higher and emissions of PM_{2.5} would have been 0.1% lower. This would result in no measurable change to the modelling results and conclusion of the report.</p>	<p>Section 9 and Appendix O of the EIS.</p> <p>Appendix K of this RtS.</p>
Sensitivity of operational inventory to assumptions	<p>The emission inventory review has noted that changes to assumptions would result in changes to various emission estimates including:</p> <ul style="list-style-type: none"> • Locomotive idling emissions that are 270% of those adopted within the AQIA. • Reach stacker emissions that are 170% of those adopted within the AQIA. 	<p>As described above, the LCC revised assumptions and corresponding revised emissions estimates are not supported. It has been demonstrated that the assumptions used in the AQIA are valid, appropriate and incorporate a sufficient level of conservatism.</p> <ul style="list-style-type: none"> • Locomotive idling emissions use a fuel consumption rate that is consistent with recent testing commissioned by the NSW EPA. 	<p>Section 9 and Appendix O of the EIS.</p> <p>Appendix K of this RtS</p>

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	<ul style="list-style-type: none"> LNG forklift emissions that are 240% of those adopted within the AQIA. <p>The below table provides a summary of the influence of these changes with respect to total emissions from the Site, as based on the AQIA emission inventory quantities.</p> <table border="1"> <thead> <tr> <th rowspan="2">Source Group</th> <th rowspan="2">Change</th> <th colspan="2">Increase relative to Site Inventory Total</th> </tr> <tr> <th>NOx</th> <th>PM2.5</th> </tr> </thead> <tbody> <tr> <td>Fleet Number</td> <td>24</td> <td>+60%</td> <td>+34%</td> </tr> <tr> <td>Locomotives</td> <td>- Adoption of average locomotive fuel consumption from the AQIA, AECOM (2010), SKM (2003). Adoption of average locomotive numbers (as defined in the noise assessment).</td> <td>+19%</td> <td>+32%</td> </tr> <tr> <td>Reach Stackers</td> <td>Nominal (85%) fleet utilisation for reach stackers.</td> <td>+3%</td> <td>+6%</td> </tr> <tr> <td>LNG Forklifts</td> <td>- Nominal (85%) fleet utilisation for LNG forklifts. Revision of LNG forklift calculations to reflect reported inputs.</td> <td>+1%</td> <td>+3%</td> </tr> <tr> <td>Truck Idling</td> <td>4 minutes idling for each truck vehicle movement^{3,4}</td> <td>+83%</td> <td>+74%</td> </tr> <tr> <td>Total</td> <td></td> <td>+60%</td> <td>+34%</td> </tr> </tbody> </table> <p>³ NOx emission factors from: PIARC 2012 Road Tunnels: Vehicle Emissions and Air Demand for Ventilation, PIARC Technical Committee (Tunnels Operation, PIARC 2012) ⁴ PM emissions factors from: Environ 2006 Revised Port of Oakland 2005 Seaport Air Emissions Inventory, prepared for the Port of Oakland International Corporation, March 14, 2006</p> <p>The changes outlined in the above table are considered to be potentially material with regard to the prediction of compliance with air quality criteria, and identification of the required levels of mitigation. In addition, given that emissions are not evenly distributed across the Site, these changes could result in increases to model predictions in excess of the total change</p>	Source Group	Change	Increase relative to Site Inventory Total		NOx	PM2.5	Fleet Number	24	+60%	+34%	Locomotives	- Adoption of average locomotive fuel consumption from the AQIA, AECOM (2010), SKM (2003). Adoption of average locomotive numbers (as defined in the noise assessment).	+19%	+32%	Reach Stackers	Nominal (85%) fleet utilisation for reach stackers.	+3%	+6%	LNG Forklifts	- Nominal (85%) fleet utilisation for LNG forklifts. Revision of LNG forklift calculations to reflect reported inputs.	+1%	+3%	Truck Idling	4 minutes idling for each truck vehicle movement ^{3,4}	+83%	+74%	Total		+60%	+34%	<ul style="list-style-type: none"> The number of trains onsite for any one hour is valid and consistent with the noise assessment. We have demonstrated that utilisation rates for equipment are valid and suitable. Excessive idling would be avoided through implementation of an anti-idling policy, communicated through information signs and driver training (refer to Appendix K of this RtS). 	
Source Group	Change			Increase relative to Site Inventory Total																													
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	<p>estimated in the above table, and be more aligned to the percentage change associated with a particular source group, i.e. in cases where a given source group has a dominant influence on downwind model predictions.</p>		
Best practice determination	<p>The materiality of several measures included within the best practice determination is not clear. This includes limitations in the practicality of implementing emission reduction measures to locomotives that are outside of the Project's operational control (noted as being the majority of locomotives), as well as best practice determinations to:</p> <ul style="list-style-type: none"> • Consider ultra-low emitting switch locomotives having regard to technical, logistical and financial considerations. • Consider an accelerated upgrade program for future Project development stages. • Consider air emissions and where possible improve air emission performance as part of locomotive maintenance. • Consider automatic engine shut down / start up systems as part of upgrades. • Aim to meet Tier 3/Euro Stage IIIA or regulated emission performance for new locomotives for future Project development stages. 	<p>The AQIA emissions and modelling are based on best practice measures that will be implemented from day one of the MPW Project. Other measures may be implemented for future development stages that may assist in lowering emissions from the project. If, due to practicality reasons, other BMP measures are not implemented, the predictions and conclusions from the AQIA would remain the same.</p> <p>SIMTA continues to give additional consideration to the implementation of best practice for the Proposal. Appendix K of this RtS provides further information on best practice that is to be undertaken for the Proposal, as amended.</p> <p>As SIMTA already owns both fleet (locomotives, trucks) and equipment (reach stackers) it is not reasonable and feasible for all best practice measures to be implemented for the Proposal on day one of operations, however, some will be.</p> <p>The approach undertaken for best practice (refer to Appendix K of this RtS) is considered realistic, practicable, reasonable and feasible in positioning for longer-term emissions reductions within the initial stages of construction and throughout the operation of the Amended Proposal.</p>	<p>Section 9.2 of the EIS</p> <p>Appendix K of this RtS</p>
Recommendations	<p>The recommendations below are identified to address the identified impacts associated with air quality, in order to allow a comprehensive assessment of the Project:</p>	<p>The assumptions used by LCC to question the validity of the emissions inventory have been shown to be incorrect. The emissions inventory remains suitable and appropriate for</p>	<p>Section 7 and Appendix E of this RtS</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> The emission inventory be revised to reflect the extent of air emissions that are proposed as part of the Project, including an allowance for peak levels of activity that would occur under routine operations. The air quality assessment be revised to incorporate a revised emission inventory such that compliance with impact assessment criteria can be assessed, with identification of relevant mitigation strategies. 	<p>assessment and the modelling and assessment does not need to be revised.</p> <p>Accordingly, the updated reporting for the Amended Proposal has followed the same approach taken for the EIS (refer to Section 7 and Appendix E of this RtS).</p>	
Biodiversity			
Methodology	<p>The biodiversity review identified a number of inconsistencies and shortcomings with both the biodiversity assessment and associated FBA analysis. The deficiencies in the Biocertification calculations are extensive requiring reassessment and a revised FBA. The revised FBA should review the landscape value, which has been significantly underestimated, with the whole development assessed as one impact. This would mean that the whole assessment will need to be run with the landscape score of 26.8. The implications for the revised landscape score would be an increase in biodiversity impacts and a substantial increase in credit purchase costs. reduce the significance of the Project impacts on biodiversity, while significantly underestimating the ecosystem credits required by between approximately 700 and 1,000, with credits anticipated to be priced at between \$9,000 and \$17,000 per credit.</p>	<p>A revised Biodiversity Assessment Report (BAR) was prepared and included as part of this RtS (Refer to Appendix G of this RtS). The revised BAR presents revised vegetation mapping to remove areas of cleared exotic-dominated vegetation and hardstand.</p> <p>The Framework for Biodiversity Assessment (FBA) using two different calculations was reviewed and only one calculation is now used. As such, a higher landscape score is applied to all areas of native vegetation on the site, as the development site includes a state biodiversity link. The site values of the vegetation have also increased as a result of the revised calculation; it is assumed that this increase is associated with updates to vegetation benchmarks in the Sydney Metro region since the previous calculation by PB (2014a).</p> <p>Further, the landscape assessment was also revised, with changes to the placement of assessment circles in accordance with FBA guidance. This has resulted in slight increases to the landscape value.</p>	Section 11 and Appendix Q of the EIS

Aspect	Comment	Response	Reference
	<p>A number of 'species credit species' have been removed from the assessment without clear justification and comment. Given the 'moderate' likelihood of occurrence determined by both Arcadis (2016) and Parsons Brinckerhoff (PB), MPW Final EIS (2015), an 'Expert report' is required by the methodology, unless further survey or justification of 'previous survey' can be provided, which is not the case.</p>	<p>With the exception of <i>Persoonia nutans</i> and <i>Grevillea parviflora</i> subsp. <i>parviflora</i>, all predicted flora species credit species identified by PB (2014b) and/or Arcadis (2016), were assessed as unlikely to occur in the 'Presence status' column in Table 7-2 of the MPW Stage 2 BAR (Arcadis 2016). Similar for fauna, all predicted species credit species, were assessed as unlikely to occur in the 'Presence status' column in Table 7-3 of the MPW Stage 2 BAR (Arcadis 2016). Note that there were several fauna species identified in Table 3.16 of the MPW Concept EIS BAR (PB 2014b) with a moderate likelihood of occurrence, however all these species are ecosystem credit species with the exception of Regent Honeyeater. Regent Honeyeater was reassessed by Arcadis (2016) as unlikely to occur as suitable habitat is not present.</p>	<p>Section 11 and Appendix Q of the EIS</p>
	<p>There was no apparent resurvey for two threatened flora species previously recorded, to determine if the initial counts of the flora species credit species were accurate. The absence of any comment on the other six flora species credits that PB (2015) considered likely to occur in the seed bank leaves further ambiguity in the Arcadis assessment as to whether they believe these species may or may not be present, and consequently whether additional survey should have been considered.</p>	<p>The areas where threatened flora species had previously been recorded, and adjacent areas of potential habitat, were inspected prior to preparation of the BAR and it was noted that the species appeared to be present at the location and density presented in PB (2014b). Detailed flora surveys were not conducted.</p> <p>Additional targeted flora surveys were undertaken in February 2017. This survey recorded 333 stems of <i>Grevillea parviflora</i> and 16 stems of <i>Persoonia nutans</i> in approximately the same locations as presented in PB (2014b). It should be noted that <i>Grevillea parviflora</i> subsp. <i>parviflora</i> was previously assessed based on number of individuals, whereas the 2017 surveys counted the number of stems; in one location, there were 200 stems counted within an approximately 10 metre x 2 metre area – it is likely that these stems represent only one genetic individual.</p> <p>The updated BAR includes the methodology and results of recent targeted surveys for both <i>Grevillea parviflora</i> and <i>Persomnia</i></p>	<p>Section 11 and Appendix Q of the EIS</p> <p>Section 7 and Appendix G of this RTS</p>

Aspect	Comment	Response	Reference
		<p><i>nutans</i> and the other six flora species (Refer to Table 7-2 of Appendix G of this RtS). The likelihood of the other six flora species to occur on the site and/or in the soil seed bank was reviewed and revised where appropriate.</p>	
	<p>The key concern associated with the biodiversity assessment for the Project relates to the Biocertification approach. The landscape value has been significantly underestimated, with the 100 ha assessment circle not centred on the area of most impact. It is also not clear why two separate landscape scores are necessary, the whole development should be assessed as one impact, meaning that the whole assessment will need to be run with the landscape score of 26.8. The implications for the revised landscape score would be an increase in biodiversity impacts and a substantial increase in credit purchase costs.</p>	<p>A revised BAR was prepared and included as part of this RtS (refer to Appendix G of this RtS). The landscape assessment as part of this revised report includes to the placement of assessment circles in accordance with FBA guidance, resulting in slight increases to the landscape value.</p> <p>Assessment circles for the Amended Proposal are presented in Figure 5-1 of Appendix G to this RtS.</p>	<p>Section 11 of the EIS.</p> <p>Appendix Q of the EIS.</p> <p>Appendix G of this RtS</p>
	<p>Inconsistencies exist between the FBA and the assessment documentation provided.</p> <p>Whilst an offset strategy was provided, the EIS (Arcadis, 2016) states that an Offset strategy has not yet been developed and will be provided as part of the Project concept. Clarification should be sought as to the suitability of the offset strategy provided if this is not utilised in the EIS.</p>	<p>Condition No. D17 of the MPW Concept Approval requires preparation of a Biodiversity Offset Package for offsetting of the ecological values lost as a result of the whole MPW Project within 12 months of the commencement of Early Works (Approved under SSD 5066). This requires a consideration of the entire impact (clearance of vegetation) and associated offset for the MPW Project.</p> <p>The MPW Early Works includes a number of activities to be undertaken on the MPW site, however, does not trigger the need for biodiversity offsets under the FBA (refer to Section 1.4.1 of the EIS for further discussion regarding Early Works inclusions). Specifically, the Early Works would not impact on the types of vegetation identified in Section 9.3.1 of the FBA or on threatened species, populations or habitats identified in Section 9.3.2 of the FBA. Impacts would meet the criteria specified in Section 9.4 of</p>	<p>Section 1, 11 and Appendix Q of the EIS</p>

Aspect	Comment	Response	Reference
		<p>the FBA (i.e. the circumstances in which determination of an offset is not required).</p> <p>Additionally, the SEARs for the Proposal identify the need for an offset strategy, or updated strategy (including any new impacts), to be prepared for the Proposal.</p> <p>Consistent with the MPW Concept Approval and the SEARs for the Proposal, an offset strategy would be prepared and updated to reflect the monitoring of offset outcomes and any new impacts as relevant.</p>	
Ecosystem credits	<ul style="list-style-type: none"> As this was a desktop review, field validation of the vegetation classification and mapping boundaries provided in Arcadis was not undertaken, although this review was supplemented by analysis of regional vegetation mapping, aerial photography and Google Street view. From this desktop assessment, it appears that large parts of the development site may retain 'native vegetation' as defined under the FBA, that have not been assessed or mapped, or if they have this has not been discussed in Arcadis (2016). In particular, north of Anzac Road and around the central parts of the site, it is apparent that although these areas are highly modified, it is possible that some areas may retain >50% native vegetation cover, with remnant trees occurring as 'scattered paddock trees'. Whilst there is no comment or assessment of these areas in Arcadis (2016), PB (2015) do note the presence of 'remnant' trees across the site. 	<p>These areas were inspected prior to the preparation of the BAR and were reinspected in February and March 2017 (refer to Section 7.2 of Appendix G of this RtS). Areas north of Anzac Road and in the central parts of the site are largely planted trees, most of which are exotic or planted native species such as <i>Eucalyptus microcorys</i> (Tallowwood) and <i>Corymbia maculata</i> (Spotted Gum) with a mown grass ground layer dominated by exotic species.</p> <p>It was additionally noted during the inspections in 2017 that there were areas in the east and north of the site mapped as native vegetation that supported planted trees and mown, exotic-dominated ground layer. Photographs of these areas are provided in Appendix B of the Revised BAR (refer to Appendix G of this RtS). As such, the vegetation mapping has been revised (refer to Figure 6-2 of Appendix G of this RtS for a comparison of previous and revised vegetation mapping).</p>	<p>Section 11 and Appendix Q of the EIS</p> <p>Section 7 and Appendix G of this RtS</p>
Ecosystem Credits	<ul style="list-style-type: none"> The assessment undertaken by John Porter (2016), states: <i>"The evidence assembled for this report from published and unpublished reports, literature, historical maps and documents strongly supports the conclusion that the Amiens</i> 	<p>The native vegetation within and adjoining the Amiens Wetland will not be cleared as a result of the Proposal.</p>	<p>Section 11 and Appendix Q of the EIS</p>

Aspect	Comment	Response	Reference
	<p><i>wetland is a natural floodplain wetland of the Georges River</i>". Section 5.3 of Arcadis (2016), states that other than Georges River and Anzac Creek, "other hydrological features are restricted to constructed artificial wetlands and detention basins in the MPW site." The Porter (2016) report may not have been available to Arcadis at the time of preparing the BAR, but it is likely that given this information an additional PCT is present onsite, Coastal Freshwater Lagoons of the Sydney Basin Bioregion and South East Corner PCT633/BVT: ME007), albeit in a degraded state (see Porter 2016).</p>		Section 7 and Appendix G of this RtS
Ecosystem Credits	<ul style="list-style-type: none"> The vegetation classification otherwise appears to be an accurate reflection of the recorded species assemblages provided in the report, and is mostly consistent with the regional classification. It is noted the Arcadis differ from PB on the presence of one vegetation type, Warm Temperate Layered Forest (Tozer et al 2006; 2010), the equivalent PCT for this being, Sydney Blue Gum X Bangalay – Lilly Pilli Moist Forest (PCT 1245 / BVT ME044). The Arcadis interpretation of the regional mapping reclassifies these areas of vegetation as Cumberland River Flat Forest (Tozer et al 2006; 2010), the equivalent PCT being, Rough-barked Apple – Forest Red Gum grassy woodland on alluvial soils (PCT 835 / BVT ME018). This is in my opinion a more likely PCT given the location, landscape and species assemblage. 	No additional comments	N/A
Ecosystem Credits	<ul style="list-style-type: none"> Powerful Owl and Barking Owl are both considered to have 'moderate' likelihood of occurrence on the development site, with PB noting 'marginal potential breeding habitat in Alluvial Woodland' (PCT835) and '...foraging habitat along forest edges' for Barking Owl and 'potential breeding and foraging habitat present in the Alluvial Woodland' for Powerful Owl. 	The Updated BAR (refer to Appendix G of this RtS) clarifies that although the Framework for Biodiversity Assessment credit report (PB, 2015b) considered that breeding habitat for Barking Owl and Powerful Owl occurred in the Georges River riparian zone, no trees with large hollows were observed within the areas of the proposed sediment basin outlets. As such, the offset multiplier	Section 11 and Appendix Q of the EIS

Aspect	Comment	Response	Reference
	<p>Arcadis have however (Section 7.1) excluded breeding habitat for these two species, noting that they have a high offset multiplier of 3.0, which they state is only relevant to breeding habitat, and the Offset Multiplier is reduced to 1.5.</p> <p>The relevance and accuracy of this statement is uncertain. This statement is attributed to the BBAM (or BioBanking Assessment Methodology, OEH, 2014c), but this apparent reduction for breeding habitat does not form a part of the BBAM, which is in any case irrelevant to this assessment as the assessment of impacts follows the FBA Methodology, not the BBAM. Further, both PB and Arcadis confirm breeding habitat onsite (as above and Table 8-6, Section 8.2.1.5; Arcadis, 2016).</p> <p>Given two of the PCTs (ME005 and ME018) recorded onsite are endangered ecological communities (EEC), Castlereagh swamp Woodland and River-flat Eucalypt Forest respectively (Note: the third PCT is listed as a vulnerable ecological community [VEC], Castlereagh Scribbly Gum Woodland), and the two most impacted upon ME003 (15.51 ha) and ME018 (28.94 ha) are 'EEC' and consequently the multiplier remains to be 3.0 for the final 'ecosystem credit' calculation. Therefore, the reduction of the Offset Multiplier for the Barking and Powerful Owl has no effect on credit calculations.</p>	<p>has been lowered to 1.5 for these species, in accordance with the guidance in the Credit calculator for Major Projects and Biobanking: Operational Manual (OEH, 2016) and as allowed for under Section 2.2.2 of the FBA.</p>	
Species Credits	<ul style="list-style-type: none"> The Arcadis assessment identifies the presence of two species credit species, following the PB (2015) report. These two species, <i>Persoonia nutans</i> and <i>Grevillea parviflora</i> subsp. <i>parviflora</i> are noted to have an abundance of 'approximately' 10 and an 'apparent' 16 individuals respectively, and are 'possibly to be present in the soil 	<p>Additional targeted flora surveys for all species mentioned by PB (2015) as potentially occurring within the seedbank were undertaken in February and March 2017. These surveys recorded 333 stems of <i>Grevillea parviflora</i> subsp. <i>parviflora</i> and 16 <i>Persoonia nutans</i>. These species were present in a similar distribution to that previously recorded by Parsons Brinckerhoff.</p>	Section 11 and Appendix Q of the EIS

Aspect	Comment	Response	Reference
	<p>seedbank'. PB (2015) identifies a further six species as potentially occurring in the soil seed bank, although the likelihood of these species occurring onsite is not discussed in the BAR (<i>Acacia bynoeana</i>, <i>A. pubescens</i>, <i>Dillwynia tenuifolia</i>, <i>Leucopogon exolasius</i>, <i>P. hirsuta</i> and <i>Pultenaea parviflora</i>), nor are any additional surveys undertaken.</p>	<p>The BAR has been updated with the methodology and results of these recent targeted surveys.</p> <p>The six species identified by PB (2014b) as potentially occurring in the seedbank (<i>Acacia bynoeana</i>, <i>A. pubescens</i>, <i>Dillwynia tenuifolia</i>, <i>Leucopogon exolasius</i>, <i>P. hirsuta</i> and <i>Pultenaea parviflora</i>) were subject to targeted surveys in 2010, 2014 and 2017. None of these species were identified in targeted searches, therefore in accordance with the FBA methodology no further assessment is required for these species.</p>	<p>Section 7 and Appendix G of this RtS</p>
Species Credits	<ul style="list-style-type: none"> Extensive fauna surveys were undertaken by PB (2014a, 2014b, 2015), which have been the basis for inclusion and exclusion of some species credits from the FBA by Arcadis (2016). With regards to fauna species credit species, some species have been excluded on the basis of adequate survey (Section 6.6 of the FBA), however adequate survey has actually not been completed. In particular, four species have been removed from further assessment that are noted to have a 'moderate' likelihood of utilising the development site (see Table 7-3, in Arcadis 2016). These are, Eastern Osprey, Eastern Pygmy Possum, Green and Golden Bell Frog and Regent Honeyeater. 	<p>Irrespective of targeted fauna survey effort, the four fauna species in question are unlikely to occur in the Proposal site. Details are outlined below for each species. In accordance with Section 6.5.1.3 of the FBA, the four species are not considered to be present on the Proposal site due to habitat being too degraded or the species being a vagrant and as such does not require further assessment or offsetting with species credits.</p>	<p>Section 11 and Appendix Q of the EIS</p>
Species Credits	<ul style="list-style-type: none"> Eastern Osprey: the assessment by Arcadis notes '<i>foraging habitat present</i>' (<i>described as: land within 40m of fresh/brackish/saline waters of larger rivers...</i>), although breeding habitat is noted to be unlikely. There is no distinction in the FBA for this species based on the type of <u>habitat</u> being utilised, and therefore any impacts on foraging, 	<p>Eastern Osprey favours coastal areas and is rare to uncommon in closely settled areas. A small number of records of this species are in the Georges River, however, they are in saline/brackish water further downstream of the Proposal site, past the Liverpool weir. The species is only found away from the coast as a vagrant. It is unlikely that the species would occur at the Proposal site. In accordance with Section 6.5.1.3(c) of the FBA, the species is not</p>	<p>Section 11 and Appendix Q of the EIS</p>

Aspect	Comment	Response	Reference
	breeding and/or roosting habitat should be considered in the species credit calculations.	considered to be present on the Proposal site and does not require further assessment or offsetting with species credits.	
Species Credits	<ul style="list-style-type: none"> Eastern Pygmy Possum: the assessment by Arcadis notes 'marginal habitat present' (described as: woodlands and heath, occasionally rainforest where it forages for nectar and pollen of banksias, eucalypts and bottlebrushes. Shelters in tree hollows, rotten stumps, holes in the ground or abandoned birdnests), but excludes the species due to adequate surveys. Whilst extensive surveys did form a component of the PB (2015) report, these surveys included techniques that were unlikely to detect such a small species (15-43 g). Survey techniques attributed by PB (2015) to the targeted survey of Eastern Pygmy Possum included, spotlighting and Elliot trapping, using Elliot A and B sized traps. These traps are unlikely to be triggered by a species as small as the Eastern Pygmy Possum, with more appropriate sized trap for targeting this species being an Elliot E. More recently the use of small nest boxes have proven much more effective in detecting this species when present (Ruegger et al 2012). It is noted that hairtubes were also included in the survey, although evidently these were not targeting Eastern Pygmy Possum as they are not listed as a 'targeted species' under this technique (see Table 2.6; PB 2015). Evidently PB have considered this species to be present on site (see Table 3.10 and 3.11), giving it a 'moderate' likelihood of occurrence and undertaking a significance assessment for this species (see Appendix D, PB 2015). 	It is unlikely the Eastern Pygmy Possum occurs on the Proposal site due to heavy degradation of potential habitat, leaving it unsuitable for the species. There are a few patches of very marginal habitat on the proposal site which are small and heavily fragmented and therefore unlikely to sustain a viable population of Eastern Pygmy Possum. In accordance with Section 6.5.1.3(a) of the FBA, the species is not considered to be present on the Proposal site and does not require further assessment or offsetting with species credits.	Section 11 and Appendix Q of the EIS

Aspect	Comment	Response	Reference
Species Credits	<ul style="list-style-type: none"> Green and Golden Bell Frog: this species is also noted by PB (2016) to have less survey effort than that recommended by Department of Environment and Energy (DEE) survey guidelines, with justification on the presumed absence attributed to <i>'call playback also being conducted and previous surveys have been conducted of the site and surrounds'</i>. There is no comment, reference or justification of these 'previous surveys', nor that call playback is somehow able to sufficiently enhance detection such that survey effort can be reduced. Call playback forms a standard component of targeted surveys for this species (DEC, 2009). There is no discussion on whether the surveyors checked a reference site to determine if the species was calling. Notes on the weather conditions during night survey on 8, 10 and 12 November 2011, note one storm event on 9 November followed by cooler conditions. Ideal survey conditions for Green and Golden Bell Frogs are warm, wet nights following prolonged periods of rainfall. <p>Given the survey period is less than the recommended by the OEH and DEE Guidelines, there is minimal discussion on prevailing weather conditions to begin calling, and there is no comment on whether a reference site was checked, 'adequate survey' in accordance with Section 6.6 of the FBA has not been undertaken.</p>	<p>It is considered unlikely that the Green and Golden Bell Frog occurs in the proposal site due heavy degradation of marginal habitat. Mosquitofish (<i>Gambusia holbrooki</i>) are present in some of the ponds on Proposal site (PB, 2014). Waterbodies on the Proposal site have minimal instream vegetation and minimal or no fringing vegetation, which this species prefers. Furthermore, the local population is considered likely to be extinct (White & Pyke 2010). In accordance with Section 6.5.1.3(a) of the FBA, the Green and Golden Bell Frog is not considered to be present on the Proposal site and does not require further assessment or offsetting. The BAR will be updated to clarify this assessment.</p>	<p>Section 11 and Appendix Q of the EIS</p> <p>Section 7 and Appendix G of this RTS</p>
Species Credits	<ul style="list-style-type: none"> Regent Honeyeater: the assessment by Arcadis notes 'marginal habitat present', and that the species <i>'may forage sporadically on the site'</i>. It appears that this species was also excluded from the assessment due to adequate survey, although PB (2015) note that survey for Regent Honeyeater 	<p>The Regent Honeyeater is considered unlikely to occur on the Proposal site. The species inhabits dry open forest and woodland, particularly Box-Ironbark woodland, and riparian forests of River Sheoak. Regent Honeyeaters inhabit woodlands that support a significantly high abundance and species richness of bird species. These woodlands have significantly large</p>	<p>Section 11 and Appendix Q of the EIS</p>

Aspect	Comment	Response	Reference
	<p>was 'not considered adequate... with the species presumed to occur intermittently on site based on habitat assessment.'</p>	<p>numbers of mature trees, high canopy cover and abundance of mistletoes. These habitat features are not present in the Proposal site. In accordance with Section 6.5.1.2(c) of the FBA, the species is not considered to be present on the Proposal site and does not require further assessment or offsetting. The BAR will be updated to clarify this assessment</p>	<p>Section 7 and Appendix G of this RtS</p>
<p>Credit calculations</p>	<p>Arcadis (2016) have prepared a BOS in 'Chapter 10: Offsetting Impacts' of the BAR, but the report refers to another document that is yet to be prepared that will be 'A comprehensive BOS'. However, Chapter 10 is considered to meet the requirements of a BOS under the BOPMP (OEH 2014b), as it states the type and amount of the biodiversity (ecosystem and species) credits the Project requires to offset the impacts of the development. The recommendation to prepare a separate document is not entirely necessary.</p> <p>Within Chapter 10, Arcadis (2016) state that '<i>the BOS will be prepared with the objective of offsetting all biodiversity impacts within the Moorebank Precinct</i>'. Whilst some credit generation may be achievable in the Moorebank Precinct with a Biobanking Agreement, subject to the comments provided above and below, it is apparent that biodiversity credits will need to be purchased offsite, as there will be insufficient land within the Moorebank Precinct to generate the quantum required. The preparation of a Biobanking Agreement for retained lands in the Moorebank Precinct will be necessary, with additional credits readily available in the market. Should these measures not address the credit requirements, Supplementary Measures under the BOPMP may be required.</p>	<p>Condition No. D17 of the MPW Concept Approval requires preparation of a Biodiversity Offset Package for offsetting of the ecological values lost as a result of the whole MPW Project within 12 months of the commencement of Early Works. This requires a consideration of the entire impact (clearance of vegetation) and associated offset for the MPW Project.</p> <p>The MPW Early Works includes a number of activities to be undertaken on the MPW site, however does not trigger the need for biodiversity offsets under the FBA (refer to Section 1.4.1 of the EIS for further discussion regarding Early Works inclusions). Specifically, the Early Works would not impact on the types of vegetation identified in Section 9.3.1 of the FBA or on threatened species, populations or habitats identified in Section 9.3.2 of the FBA. Impacts would meet the criteria specified in Section 9.4 of the FBA (i.e. the circumstances in which determination of an offset is not required).</p>	<p>Section 11 and Appendix Q of the EIS</p>

Aspect	Comment	Response	Reference
Ecosystem credits - Landscape score	<p>It is noted that the 100 ha inner assessment circle has not been centred over area of most impact (see Appendix 4, OEH 2014a). This has the effect of driving the landscape score down. For most of the vegetation assessed in the BAR, a landscape score of 12.8 has been used, with a separate landscape score of 24.8 provided for an additional 1.68 ha of impact to ME018 (the reasoning for this additional assessment circle is not well justified). With the 100 ha circle placed in the north of the site the '% Native vegetation cover' goes from 31-35% down to 11-15%, rather than 16-20% down to 11-15% as assessed by Arcadis (2016). With all other landscape variables entered into the Tool equivalent to those in the Arcadis report, a landscape score of 26.8 is calculated.</p> <p>Further, using the Sydney Metro Catchment Management Area (OEH 2013) regional vegetation mapping, the 1,000 ha outer assessment circle of 26-30% was calculated, as opposed to 16-20% calculated by Arcadis. As there is no change in the % cover before and after the development, this has no effect on the landscape score, but it is notable that in our assessment the % cover was calculated as ~300 ha before, and with ~45 ha of clearing it barely avoids crossing an increment. If the additional 1.68 ha of clearing is considered in the same assessment, the % cover in the outer assessment circle would also change, and this would increase the landscape score component to 27.8.</p>	<p>A revised landscape score is included in the Section 5.4 of the Updated BAR (refer to Appendix G of this RtS).</p> <p>The revised assessment used a 100 ha inner assessment circle repositioned over the northern part of the Proposal site. With this change, the percentage of native vegetation cover is currently 25-30% and would be reduced to 11-15% with the Amended Proposal.</p> <p>For the 1,000 ha outer assessment circle, the revised current native vegetation cover was calculated as 26-30%.</p> <p>The resulting landscape value score for the Proposal site is now 27.5</p>	Section 11 and Appendix Q of the EIS
Ecosystem credits - Site value	<p>There is large discrepancy in the Benchmarks quoted in the Arcadis report (see Tables 6- 8 and 6-9). It is uncertain whether the benchmarks for ME018 have been transcribed incorrectly, but the assessment undertaken for this report has different benchmarks to this in the FBA Tool and the VIS database (OEH 2016c). Another reason for this may have been that the two different assessments undertaken by Arcadis were commenced</p>	<p>Noted – the benchmarks have been incorrectly entered for this table. The benchmarks for ME018 were used in the actual calculation. The table has been corrected in the Updated BAR (refer to Appendix G of this RtS).</p>	<p>Section 11 and Appendix Q of the EIS</p> <p>Appendix G of this RtS</p>

Aspect	Comment	Response	Reference
	<p>prior to a benchmark update in the FBA Tool and VIS, but without the access to the actual assessment this remains unknown. What is known, is that the Site Value score are substantially lower in the Arcadis report than those calculated for this review (e.g. ME018 = 35.76, Table 6-10, Arcadis; and ME018 = 49.13). This has also had a substantial impact on the credit requirement for the site.</p> <p>When the same plot data is entered in the Tool with this revised landscape score and the TS Multiplier unaltered, the results of the assessment are quite different:</p> <ul style="list-style-type: none"> • ME003 = 15.51 ha of impact = 734 credits required (as opposed to 427) • ME005 = 0.92 ha of impact = 29 credits required (as opposed to 30) • ME018 = 28.94 ha of impact = 1,260 credits required (as opposed to 867) <p>(Note: the above analysis does not include the additional 1.68 ha of impact)</p>		
Species credits	<ul style="list-style-type: none"> • If Eastern Pygmy Possum and Eastern Osprey are considered to occur in the 'Alluvial Woodland' (Forest Red Gum – Rough-barked Apple grassy woodland - ME018), this would require an additional offset of 579 and 376 species credits for these individuals. This is based on the entire area of Alluvial Woodland being potential habitat for these species, which may not be the case. • Additional assessment of the impacts to <i>G. parviflora</i> ssp. <i>parviflora</i> and <i>Personia nutans</i> provided the same result for <i>P. nutans</i>, but a slight variation in the results for <i>G. parviflora</i> ssp. <i>parviflora</i>, with 224 (14 credits/individual) as opposed to 	<p>It is unlikely the Eastern Pygmy Possum occurs in the Proposal site, including within Alluvial Woodland, due to a lack of suitable habitat. The species is not considered to be present on the proposal site and does not require further assessment or offsetting with species credits.</p> <p>It is unlikely that Alluvial Woodland provides habitat for Eastern Osprey as they utilise wooded habitats within 1 kilometre of the sea for nesting and otherwise forage over water in coastal areas. The species is not considered to be present on the Proposal site</p>	Section 11 and Appendix Q of the EIS

Aspect	Comment	Response	Reference
	<p>235 (15 credits/individual). There is no reason that the FBA methodology should calculate this differently, unless there has been some change in the Threatened Species multiplier since the original assessment.</p>	<p>and does not require further assessment or offsetting with species credits.</p> <p>The flora species credits have been recalculated based on results of threatened species surveys in February - March 2017. Details regarding this additional field assessment is provided in the Updated BAR. The revised credit values are provided in the Updated BAR (refer Appendix G of this RtS).</p>	
<p>Consistency with Concept Approval</p>	<p>There is some small change to the classification of some vegetation in the Arcadis (2016) mapping, although the revised map unit appears to be a better fit for the vegetation that would naturally occur at the site.</p> <p>Some individual flora and fauna species that are considered 'species credits' under the FBA have not been considered by Arcadis, although PB (2015) has expressed likelihood of their presence.</p> <p>Three stormwater outlets have been added to the Arcadis assessment, these have been assessed as additional impacts with a separate FBA assessment, due to a differing landscape score, although as above it is not well explained why these should be assessed separately.</p>	<p>Responses regarding the updates to mapping, species credits and the assessment of the stormwater outlets are provided above.</p>	<p>Section 11 and Appendix Q of the EIS</p>
<p>Recommendations</p>	<p>The recommendations below are identified to address the identified impacts associated with the Project to allow a comprehensive assessment of the Project:</p> <ul style="list-style-type: none"> Assessment of the potential for areas of scattered 'remnant' trees should be undertaken, to determine the likely existence of native vegetation as defined by the FBA and ascertain whether the site value of these patches is >17/100, consequently requiring additional offsetting. 	<p>The comments listed here are a summary of those previously made by Liverpool City Council in relation to biodiversity and have been addressed above.</p>	<p>Section 11 and Appendix Q of the EIS</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • Coastal Freshwater Lagoons (PCT 633 / BVT: ME003) should be added to the impact assessment. • A number of 'species credit species' have been removed from the assessment based on adequate survey, although this has been documented not to have been the case by both Arcadis and PB. It is likely that some of these species may have been removed from the 'candidate species list' prior to survey in accordance Section 6.5.1.3 of the FBA, but this has not been expressed in the BAR. Given the 'moderate' likelihood of occurrence determined by both Arcadis and PB (2015), an 'Expert report' is required by the methodology unless further survey or justification of 'previous survey' can be provided. • There was no apparent resurvey for two threatened flora previously recorded, to determine if the initial counts of the flora species credit species were accurate. Given there was some ambiguity in the initial count, stem counts, presence of ramets/suckers should be considered to determine if numbers of individuals are accurate. The absence of any comment on the other six flora species credits that PB (2015) considered likely to occur in the seed bank leaves further ambiguity in the Arcadis assessment as to whether they believe these species may or may not be present, and consequently whether additional survey should have been considered. • The landscape value has been significantly underestimated, with the 100 ha assessment circle not centred on the area of most impact. It is also not clear why two separate landscape scores are necessary. The whole development should be assessed as one impact, meaning that the whole assessment will need to be run with the landscape score of 		

Aspect	Comment	Response	Reference
	<p>26.8. In addition, if the assessment is limited to one 1,000 ha assessment circle (rather than 2), the landscape score will increase further to 27.8, also requiring additional offsetting.</p> <ul style="list-style-type: none"> The cost implication of these changes will be quite significant. There is an estimated ~700 ecosystem and ~1,000 species credits shortfall. It is noted that the BOS is intending to identify offsets within the Moorebank Precinct which will provide large savings, and there is little previous sales history to estimate the actual market price of buying all of the ecosystem and species credits required, but one of the PCT's, Forest Red Gum – Rough-barked Apple grassy woodland – PCT835 / BVT: ME018), has a substantial sales history and has sold from \$9,000-17,000 / credit. 		
Ongoing regulation requirements			
Regulatory authority	The EPA (with support and commitment from State and Federal Government agencies) is believed to be the most appropriate regulatory authority for the proposed development and associated activities should approval be granted. Council has previously advised of concerns about the capacity regarding sourcing and implications that would be associated with the regulation of facility of this size and operational capacity.	This submission is directed to EPA and DP&E and is not a matter for the Applicant to comment upon.	N/A
Local Infrastructure Contributions			
	While it is noted that SIMTA has mention that developer contributions will be considered in conjunction with the Roads and Maritime Service (RMS) once the Precinct Model has been finalised, there is no mention of if/when developer contributions will be assessed with Council. This suggests that the developer has no intention of paying developer contributions to Council, which would be required to forward fund assets and gaps in	<p>Condition of Approval E13 for the MPW Concept Approval (SSD 5066 3 June 2016) identifies:</p> <p>E13. All future Development Application shall include:</p> <p><i>a) an assessment of the impacts of the project on local infrastructure, having regard to any relevant Council's Developer</i></p>	Section20.3.4 of the EIS.

Aspect	Comment	Response	Reference
	<p>infrastructure created by the Project. The lack of commitment to consider entering into an agreement with Council regarding the developer contributions requirements could set an unwelcome precedent for similar size developments in NSW.</p> <p>Recently Council passed a motion to seek Ministerial Approval for a Section 94A scheme for “established areas” within the Liverpool LGA. Under this Project the following developer contributions would be required for any development within “established areas” (including the Project site):</p> <ul style="list-style-type: none"> • Capital Investment Value \$0 - <\$100,000 – 0% levy • Capital Investment Value \$100,000 - <\$200,000 – 0.5% levy • Capital Investment Value >\$200,000 – 2% levy. <p>The funds gained from such contributions would give Council the ability to fund projects to maintain infrastructure impacted by the MPW Project and upgrade infrastructure where required by the increased load generated by MPW.</p> <p>It is recommended that one of two suggested options be chosen by SIMTA to address the current shortcomings, as previously suggested by Council:</p> <ul style="list-style-type: none"> • A VPA between SIMTA and Council be prepared to ensure a fair and equitable outcome regarding local infrastructure contributions is achieved. This may involve the payment of a monetary contribution using Council’s recent resolution as a basis, the provision of works in kind, or a combination of both. Council has identified that monetary contributions could cater for the long term maintenance or short term upgrades to the transport network, with road infrastructure management examples including the need to preclude heavy 	<p><i>Contributions Plan (or equivalent document requiring developer contributions);</i></p> <p><i>b) a commitment to pay developer contributions to the relevant consent authority or undertake works-in-kind towards the provision or improvement of public amenities and services. Note: This requirement may be satisfied subject to the terms of any applicable Voluntary Planning Agreement; and</i></p> <p><i>c) a commitment to undertake vehicle monitoring on Cambridge Avenue. Should any monitoring reveal the need for improvement works within the Campbelltown LGA as a result of the proposal, the Applicant may be required to contribute towards local road maintenance or upgrades.</i></p> <p>The above requirements are addressed within Section 20.3.4 of the EIS, specifically referencing Liverpool City Council’s principles of establishing developer contributions under the Liverpool Contributions Plan 2009.</p> <p>It is SIMTA’s intention to pay developer contributions as it is prescribed in the existing CoA and is identified within the EIS.</p> <p>Any contribution needs to take into account works in kind which would be undertaken to the benefit of the developer, LCC and the community (e.g. through maintenance/improvement of existing water management system and catering for background traffic growth respectively).</p> <p>The staged nature of this MPW Project requires that development contributions are considered progressively as part of development applications and are attributable to the impact associated with those stages under the MPW Concept Approval (SSD 5066).</p>	

Aspect	Comment	Response	Reference
	<p>vehicle traffic on Nuwarra Road and Governor Macquarie Drive.</p> <ul style="list-style-type: none"> The determination include a condition under Section 94A of the EP&A Act, in accordance with the provisions listed at Clause 94B (2) of the EP&A Act. This condition may result in a 2% levy being enforced in accordance with Council's recent resolution for the proposed Section 94A Plan. <p>In summary, there is a lack of commitment from the developer to provide contributions to Council to fund anticipated increases in the required maintenance of local infrastructure. This must be addressed immediately to avoid establishing a damaging precedent for future similar developments.</p>	<p>Further, it is noted that the Liverpool City Council Contributions Plan does not consider industrial development within the Moorebank area. Any proposed contribution should therefore be consistent with surrounding industrial areas taking into account the mitigating circumstances and key considerations identified above.</p>	
Recommendations	<ul style="list-style-type: none"> As previously mentioned in past assessments, a large deficiency in developer contributions exist, which should be addressed prior to determination. The EIS has identified that Council does not have a contributions framework in place for this type of development. It is recommended that a VPA be established between Council and SMITA to ensure developer contributions towards existing infrastructure is captured. Evidence of engagement and correspondence with Council regarding developer contributions should be included as part of any future government approvals. Evidence of engagement with utilities providers should accompany any future development approval process. This will aid in understanding developer contributions that might be required to upgrade existing infrastructure and demonstrate agreement with utilities providers. Evidence of engagement with Endeavour Energy has been provided in Appendix H. Engagement with Sydney Water, however this 	<ul style="list-style-type: none"> Refer to comment above. Developer contributions would be discussed with DP&E and Roads and Maritime (and other relevant agencies) prior to determination. Noted – reference CoA E13 of the MPW Concept approval SSD 5066 3 June 2016. Section 6 of the EIS provides a summary of consultation undertaken with service and infrastructure providers. Further consultation undertaken with utilities is provided in Section 2 of this RtS. Reference CoA E13 of the MPW Concept approval SSD 5066 3 June 2016 	<p>Section 20.3.4 of the EIS.</p> <p>Section 2 of this RtS</p>

Aspect	Comment	Response	Reference
	engagement only details the connection requirements to receive a Section 73 certificate.		
Strategic justification			
	<p>The State and Local Government strategic justification is less clear. The NSW State Priorities (2016) have been identified to provide quantifiable objectives to reform the economy. Job creation and building infrastructure are incorporated as priorities. Both of these priorities could be considered to be addressed by the MPW Project. However, it is not clear that an IMT at Moorebank is the highest and best use for the land in relation to job creation and the associated economic growth, as well as infrastructure delivery.</p> <p>The MPW Project would lead to investment in infrastructure. However, much of this investment would be associated with retrofitting existing corridors that are highly constrained, resulting in high cost and inefficiencies. The life cycle benefit of these infrastructure investments should be considered when discussing investment, rather than simply the financial input.</p>	<p>Section 3.1 of the EIS outlines the strategic justification for the Proposal from a State and Commonwealth perspective. It is noted that both job creation and building infrastructure are identified by the Premier as State priorities for NSW (NSW Government, 2016). These priorities align with the <i>Australian Infrastructure Plan</i> (Infrastructure Australia, 2016), <i>National Infrastructure Priorities</i> (Infrastructure Australia, 2009) and <i>A Plan for Growing Sydney</i> (DP&E 2014) while the broader need of an IMT facility to service incoming freight by rail from Port Botany is supported by the <i>NSW Freight and Ports Strategy</i> (TfNSW, 2013) and the NSW Long Term Transport Masterplan (TfNSW, 2012) among others. The importance of freight and logistics capability within the South West of Sydney is highlighted within the <i>Greater Sydney Commission (GSC) Draft SW District Plan</i> (2017).</p> <p>The MPW Concept Approval (5066) was granted approval by the PAC on 3 June 2016. This approval identifies that the NSW state government supports, subject to satisfying conditions of approval, the operation of the MPW Project on the western side of the Moorebank Avenue, Moorebank.</p> <p>Investment benefits and business case justification for the Proposal, and the wider Project, is addressed within the MPW Concept EIS, and is therefore out of scope for this RtS.</p>	<p>Section 3 of the EIS.</p> <p>MPW Concept I EIS</p>
Planning			

Aspect	Comment	Response	Reference
DCP	<p>The SEARs at 11 (c) state that the assessment of visual impact should consider built form (materials and finishes), along with urban design (height, bulk and scale). The EIS includes 'indicative' materials and colours, however, the assessment does not provide details for setbacks, building style, fenestration, or the rationale for how these finishes integrate with the surrounding environment.</p> <p>It is recommended that a site specific DCP be created by the proponent, to the satisfaction of Council, as a condition of determination. The DCP would refine the controls within the EIS to create suitable urban design, built form and public domain principles based on the site operations and surrounding context through an amendment to Part 2.4 of the DCP, which includes the land currently zoned industrial in the Moorebank Defence Lands area.</p>	<p>Master planning work undertaken for the MPW Concept Approval lead to the development of building design principles, consistent with those outlined in Part 7 of the Liverpool Development Control Plan 2008 to drive urban design. As outlined in Section 4.2.7 of the EIS, these controls include:</p> <ul style="list-style-type: none"> • Facade treatment - adopting a contemporary architectural appearance and use of architectural elements to articulate facades • Materials - use of quality materials such as brick, glass and steel to construct the facades and masonry material for construction of factory units or similar • Colours – choice of finishes and colours which limit the amount of contrast with the surrounding landscape with the preferred use of muted colours • Building design, incorporating considerations such as location of administration buildings at the front • Lighting to be provided in the car park and external entry paths, with consideration given to light spill impacts on the amenity of adjoining residents. <p>In addition, planning controls identified in the Liverpool LEP (refer to Table 5-7 of the EIS) regarding floor space and setbacks have also been adopted for the Proposal. These include:</p> <ul style="list-style-type: none"> • A floor space ratio of 1:1 would apply to the warehousing area • The western area of the Proposal site would consist of the conservation area, which would be landscaped to provide a visual buffer along this boundary 	Section 4 of the EIS.

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> An 18 m (average) building setback would apply along the Moorebank Avenue (eastern) boundary and a 7 m building setback along the other site boundaries <p>As outlined in Section 4.2.7 of the EIS, the IMT facility, warehouses and structures included in the Proposal would be of a high design quality. The building colours and finishes would be compatible and blend with the surrounding land uses, including non-reflective colours. A variety of materials would be incorporated, including glass, colour bond and painted concrete. The intention is that all buildings, where possible, be provided a comprehensive landscape setting that integrates with the surrounding landscape.</p> <p>A Landscape Design Statement and landscape Plans provided in Appendix E of the EIS outline details on key landscaping features for the Proposal site. This design aims to integrate the site into the broader environment through adopting the following:</p> <ul style="list-style-type: none"> Use of species that are local to the area, hardy and easy to maintain, including those recommended by the Liverpool City Council DCP Use of trees within the site to provide a uniform canopy cover within vegetated areas Use of local species as understory planting to support and enhance local habitat values Use (where reasonable and feasible) of seeds collected within the local area for planting to reinforce the genetic integrity of the region. <p>Updated Landscape and Architectural Plans have been provided in Appendix B of this RtS that reflect updates to the design made</p>	

Aspect	Comment	Response	Reference
		<p>as part of the Amended Proposal (described in Section 6 and assessed in Section 7 of this RtS).</p> <p>Accordingly, a site-specific DCP is not considered necessary, as relevant management plans have been prepared in accordance with the LCC LEP and DCP.</p>	
	<p>Council do not have specific controls for the MPW site, as it was assumed that this land would continue with the current Defence use until the IMT Concept Plan was raised. Consequently, there is a gap in Council's strategic planning. However, there are a number of strategic plans of relevance to the MPW site due to their proximity:</p> <ul style="list-style-type: none"> • Council's Vision for the Riverfront Lands, which relates to land along the Georges River foreshore to the north of the M5. • Council's Georges River Casula Parklands Draft Master Plan, which relates to land on the western side of the Georges River, directly across from the MPW site. <p>The strategic direction identified by these plans focuses on increasing the public use and amenity of the foreshore to facilitate residential and commercial development, while retaining and enhancing the visual and ecological quality of the Georges River and foreshore environment. The development of an IMT adjacent to the foreshore, along with the associated rail crossing would impact on the amenity of the area through increased noise, reduced air quality and visual amenity, resulting in impacts to human health. Consequently, the Project is contrary to Council's strategic direction.</p>	<p>The <i>Liverpool Local Environmental Plan 2008</i>, was recently amended to include development standards for the MPW site (in accordance with the Planning Proposal (PP_2012_LPOOL_004_00)). Therefore, specific controls have been identified for the MPW site by Council.</p> <p>The Georges River Master Plan, prepared in August 2016, refers to a 350 ha site located to the north of the Moorebank Precinct, bounded by the M5 Motorway to the south and the Georges River to the west. The Proposal would not preclude development under the Georges River Master Plan. The plan aims to preserve the environmental values connected to the Georges River and Foreshore, improve public access to these areas, and provide a framework for driving urban growth to 2050, while not changing existing planning rules. The Moorebank Intermodal Terminal is mentioned within this plan (page 6) as being a key driver for the precinct establishment, through the generation of local employment.</p> <p>The Proposal is located on Commonwealth Land, previously occupied by Defence for training purposes, and not accessible to the public. The Georges River riparian area, running along the western boundary of the Proposal site would be preserved as a conservation area, which would also act as a visual and noise buffer of site operations for nearby residents in Casula. Architectural Drawings provided in Appendix D of the EIS show the site layout does not preclude a possible future pedestrian</p>	<p>Section 23 and Appendix D of the EIS</p>

Aspect	Comment	Response	Reference
		<p>connection to Casula Railway Station from the northern section of the site.</p> <p>The Georges River Casula Parklands Draft Master Plan relates to land to the west of the Proposal site, on the opposite side of the Georges River. The designated conservation area acts as a significant noise and visual buffer to this side of the river, and management measures would be implemented to achieve water quality objectives from the NSW Office of Water and Australian and New Zealand Environment and Conservation Council (ANZECC) are met. The construction and operation of the Proposal would not impede the design objectives associated with this plan.</p> <p>The Environmental Assessment of the Proposal, as detailed within the EIS (Section 23 of the EIS) concluded that no significant environmental impacts to air, noise or public health would result from the construction or operation of the Proposal, in the presence of defined mitigation measures. It is therefore considered that the Proposal development is not in conflict with the strategic direction outlined through the plans provided.</p>	

Aspect	Comment	Response	Reference
Section 79C review	<p>Development under Part 4 of the EP&A Act is required to consider the provision of Section 79C of the EP&A Act.</p> <p>Key matters identified within Section 79C include:</p> <p><i>(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,</i></p> <p>The EIS states that ‘no substantial environmental impacts have been identified for the proposal’ (Arcadis, 2016). The extent of the vehicle movements associated with the construction and operational phases of the Project, along with the associated impacts on human health and amenity from noise, air quality and congestion are substantial. Consequently, the Project is considered to significantly impact on the natural and built environment, as well as the social and economic fabric of the locality (refer to the subsections within Section 3 for further discussion).</p> <p><i>(c) the suitability of the site for the development,</i></p> <p>The EIS identifies the Concept Approval as confirming the site’s suitability for the Project. Subsequent to the Concept Approval a Section 96 modification has been proposed that would result in substantially greater impacts during the construction phase of the Project, as a result of the magnitude change in fill requirements. The impacts resulting from the large scale vehicle movements associated with the importation of material would result in a further reduction in the amenity of the surrounds, beyond that initially considered by the Concept Plan assessment.</p>	<p>The EIS prepared for the Proposal considers key outcomes from environmental issues associated with the Proposal (refer to Sections 7-20 of the EIS). The statement that no substantial environmental impacts have been identified for the Proposal is justified on the basis of the investigations that were undertaken, specifically those related to Traffic (Section 7 of the EIS), Air Quality (Section 9 of the EIS) and Health (Section 10 of the EIS), and mitigation measures identified to further reduce impacts.</p> <p>The Modification Proposal is subject to separate approval under section 96 of the EP&A Act. The Modification Report prepared in accordance with the Section 96 identifies, measures and assesses the additional environmental impacts generated by changes to the MPW Concept Approval (SSD 5066). Specifically, this relates to the importation and placement of 1,600,000 m³ of fill material for the purposes of achieving final site levels for drainage purposes. The modification to the Concept proposed this activity to be included within the Proposal (refer to Section 4.3 of this EIS), subject to environmental assessment under this EIS.</p> <p>The impact assessment undertaken for the Proposal considers the additional traffic movements and associated noise, air and health implications arising as a result of this additional activity, in the context of surrounding development (cumulative impacts – refer to Section 19 of the EIS).</p> <p>As outlined above, the impacts generated can be adequately managed through the implementation of mitigation measures and do not result in any significant exceedance to relevant air, noise and health criteria.</p>	Section 7, 9, 10, 19 and 23 of the EIS

Aspect	Comment	Response	Reference
Noise and Vibration			
Rail link	<p>Regarding CoA Schedule 4, condition E9, and the SEARs: The EIS (Arcadis, 2016) makes reference to the rail link and the associated infrastructure development but the assessment is considered generally deficient.</p> <p>Cardno acknowledge that rail infrastructure development is largely captured by separate development proposals, MP10_0193 and SSD 6766, however the EIS should provide a more detailed discussion of the potential impacts of and interactions with the rail link and associated infrastructure development and the interaction with the proposal.</p>	<p>In regard to Condition E9 of the CoA (SSD 5066), conditions relating to construction of rail link (apart from the rail sidings at the IMT facility and portion of rail line joining the IMT facility on the Proposal site and the Rail link) are not relevant to the Proposal as they will be designed and constructed as part of the MPE Stage 1 Project (SSD14-6766).</p> <p>As is clearly acknowledged in Section 1.4.4 of the EIS, the Rail link (subject to assessment under SSD 6766) would be utilised for the purposes of the operation of the Proposal. As such, an assessment of operational rail noise for the Proposal, corresponding with the section of the Rail link between the SSFL and the Proposal site, was undertaken in accordance with the RING as a 'non-network line servicing an industrial site'.</p> <p>The findings for this assessment are presented in Section 8.4 of the EIS and Section 8 of Appendix N.</p> <p>A revised rail noise assessment was undertaken for this RtS to more accurately predict the impact of the Amended Proposal on L_{Aeq} rail noise at sensitive receivers, taking into consideration baseline rail movements on the SSFL (refer to Section 7 and Appendix D of this RtS). The complementary assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield Farm respectively.</p>	<p>Sections 1, 8 and Appendix N of the EIS.</p> <p>Section 7 and Appendix D of this RtS</p>
Construction Noise Criteria	<p>Out of standard hours (OOH) noise criteria should consider background noise levels relative to the out of hour's period. Rating Background levels (RBL's) adopted should consider background noise conditions specific to the out of hour's period for each noise catchment area and whether lower ambient levels occur during the specific OOH period when a greater proportion</p>	<p>Out of hours (OOH) noise criteria for the Proposal is outlined in Section 8.2 of the EIS and is derived from the NSW EPA's ICNG.</p>	<p>Section 8 and Appendix N of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>of residents are typically home. Long term background monitoring data is available for the Project area with recent data presented on the MIC website.</p>	<p>As stated in Section 8.2.2 of the EIS, Construction noise levels during all proposed out of hours works periods are predicted to comply with the NML at all times.</p>	
<p>Noise Modelling Inputs</p>	<p>The operational and construction noise assessment provides minimal detail with regard to noise sources and model assumptions applied. To verify the findings of the assessment, additional information would be required to understand the modelling inputs and outputs.</p> <p>Aspects requiring clarification include:</p> <ul style="list-style-type: none"> • Figures showing source locations adopted during acoustic modelling (construction and operations) • A summary table detailing number and type of sources included in each model scenario (construction and operations) • Assessment of annoying characteristics in consideration to the ICNG for particularly annoying construction noise sources. <p>It was not clear from the assessment whether internal movement of freight between the IMT and warehousing was included in the operational noise assessment. The air quality assessment included these additional internal movements as an air emission source. Noise contribution from internal truck movements would be expected and could potentially contribute to overall noise emissions.</p>	<p>The type and number of operational noise sources are described in Section 7.2 of the Noise and Vibration Impact Assessment (Appendix N of the EIS). Locomotives were modelled as an area source over the rail terminal, cars and trucks were modelled as line sources on the internal roads, and container handling equipment was modelled as a line source, adjacent to the rail terminal.</p> <p>The total sound power level of each construction scenario is presented in Table 10-2 of Appendix N of the EIS. No adjustments have been made for particularly annoying sources, given the large distances to receivers and the conservative assumptions built into the assessment conducted, such as modelling all construction plant operating continuously and at the same time.</p> <p>The internal movement of freight was included in the operational noise impact assessment as outlined in Section 7.2.1 of the NVIA. Container handling and internal truck movements were identified as being significant noise sources associated with Proposal operations.</p>	<p>Section 8 and Appendix N of the EIS</p>
<p>Noise Model outputs</p>	<p>A comparison of predicted noise levels between the Concept Approval for Phase B, 0.5M TEU/annum (SLR, 2014) and MPW Stage 2 NVIA (Wilkinson Murray, 2016) indicated significantly lower noise levels for all receivers assessed. Results for Casula under adverse conditions were 10 dB quieter, Glenfield 20 dB</p>	<p>Discrepancies in predicted construction noise impacts from the SLR (2014) assessment and the NVIA (Appendix N of the EIS) are accounted for through design elements that have been further refined since the MPW Concept Approval (SSD 5066).</p>	<p>Sections 1, 8 and Appendix N of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>quieter and Wattle Grove 5 dB quieter during the night time period.</p> <p>Without detail on the number and location of noise sources assumed during noise modelling, it is not clear how this noise benefit was achieved.</p> <p>Comparison of construction noise results also indicated significantly lower noise levels when comparing between the Concept Approval and MPW Stage 2 NVIA. As an example; construction of the rail access route (including bridge piling) across the Georges River was predicted to be 6 - 13 dB quieter in the MPW Stage 2 NVIA versus the Concept Approval NVIA. Both assessments presented similar noise source sound power levels.</p>	<p>The construction of the rail access bridge and associated rail access works, included within the SLR assessment, are no longer relevant to the Proposal (refer to Section 1.4 of the EIS) as they will be designed and constructed as part of the MPE Stage 1 Project (SSD14-6766).</p>	
	<p>The MPW Stage 2 NVIA (Wilkinson Murray, 2016) suggested that the Project would have minimal impact on the surrounding community when assessing rail noise levels and potential for sleep disturbance. It is also anticipated that rail and total noise would exceed World Health Organisation community noise guidelines as existing ambient noise levels already exceed this criteria (refer to Section 3.6 where specific human health impacts are reviewed).</p>	<p>The NVIA (refer to Appendix N of the EIS) was prepared to address the SEARs, in accordance with NSW INP (EPA 2000), the ICNG (DECC 2009), the RING (EPA 2013) and the NSW RNP 2011.</p> <p>As outlined within Section 10.4 of the EIS, hazard quotients are above 1 for the residential receivers in Casula and Glenfield for operation rail noise. These values only marginally exceed 1, which indicates that rail noise may result in a minor increase in the risk of health outcomes to the community, if left unmitigated. Furthermore, when analysed in conjunction with Table 10-21 of the EIS, it can be seen that a similar hazard quotient is generated by ambient noise as rail noise. It is also noted that there is no recorded recognisable difference between the existing ambient and total noise levels in each of the three noise catchments, indicating that the Proposal would have minor impact on the local area, and that the existing ambient noise is the major contributor to the total noise affecting these residential receivers.</p>	<p>Section 8, 10 and Appendix N of the EIS.</p>

Aspect	Comment	Response	Reference
Consistency with Concept Approval	<p>The results for the proposed MPW Stage 2 NVIA suggest significant noise benefits compared with the Concept Approval, specifically for operational noise. However given the limited information provided on modelling inputs and assumptions, it is not possible to validate whether the results represent a reasonable estimation of noise impact.</p> <p>A number of assessment requirements relating to Noise and Vibration are outlined in Schedule 4 of the Concept Approval. It is important to note that items E1 Operational Noise and Vibration and E2 Operational Noise and Vibration have not been fully addressed in the EIS and/or supporting NVIA.</p>	<p>Discrepancies in predicted construction noise impacts from the SLR (2014) assessment and the NVIA (Appendix N of the EIS) is accounted for through design changes and refinements undertaken since the MPW Concept Approval (SSD 5066) EIS was lodged.</p> <p>Approval Conditions E1 and E2 have been addressed through the Best Practice Review and the NVIA, to the level of detail supported by the design maturity of the Proposal. Further consideration has been given to the approach of the Amended Proposal to best practice as identified in Appendix K of this RtS.</p>	<p>Appendix N of the EIS.</p> <p>Appendix K of this RtS.</p>
Recommendations	<p>The recommendations below have been identified to allow a comprehensive assessment of noise impacts from the Project:</p> <ul style="list-style-type: none"> • Justification of the background levels adopted for out of standard hour's works should be provided considering long term monitoring data is available. • Assessment input data, including numbers type, and location of equipment referenced in each assessment scenario, duration adjustments and model assumptions applied should be clearly documented for clarity in the acoustic assessment. The level of detail currently provided does not allow for an independent assessment of model assumptions inputs and results. • Annoying noise sources which would require the consideration of penalty adjustments should be clarified. • The MPW Stage 2 NVIA should also consider World Health Organisation community noise guidelines to ensure the statements of impact for Noise and Vibration as well as Human Health are correct as it is anticipated that rail and 	<p>Regarding OOH noise management levels, review of the noise monitoring plots indicates that ambient L₉₀ noise levels in nearby residential noise catchment areas typically increase from 5:00am and are typically equal to or greater than the daytime RBL from approximately 6:00am onwards. Therefore, the daytime RBL is considered representative of the background noise levels in OOH periods 1, 3 and 4. OOH period 2 occurs during the evening (6:00pm – 10:00pm) period and therefore, the evening RBL has been used to establish the OOH noise management levels during OOH period 2. It should be noted that the evening RBL in Casula, Glenfield and Wattle Grove, established in accordance with the INP, are equal to the daytime RBL. Therefore, the established OOH noise management levels in each catchment are constant.</p> <p>The remaining items raised in the submission are a summary of previous submissions from LCC. Please refer to the individual responses provided above.</p>	N/A

Aspect	Comment	Response	Reference
	<p>total noise would these noise guidelines as existing ambient noise levels already exceed the criteria.</p> <ul style="list-style-type: none"> • Ensure all aspects of the Concept Approval (particularly Schedule 4) relating to Noise and Vibration are fully considered, addressed and referenced. Rail squeal and traffic noise levels are still significant concerns with the community which needs thorough assessment and mitigation. 		
Operations			
Rail link	Condition 14 states that “Operations on the Subject Site cannot commence until a rail connection to the SSFL is operational”. Therefore, operations for MPW Stage 2 cannot commence until the SSFL is operational.	The rail connection would connect the SSFL with the general Moorebank Precinct, which would be used both for the MPE and MPW Projects when fully operational. Operation of this connection would preclude operations on the Proposal site.	N/A
Heritage			
Indigenous Heritage	The SEARs and CoA E19 do not specifically require justification of the chosen option or mitigation measure, however suitable information should be provided to ensure an adequate assessment of the proposed works has been undertaken including limited investigations in the heritage significance of MA6.	<p>As detailed within Section 16.1 of the EIS, investigations have been undertaken throughout the various stages of the MPW Project to determine the heritage significance of MA6 (as summarised further below). Mitigation of impacts regarding this item is based on this information combined with direct consultation with relevant Registered Aboriginal Parties (RAPs).</p> <p>As part of the MPW Concept Approval Response to Submissions, an assessment report for both scar trees (MA6 and MA7) was undertaken by Navin Officer Heritage Consultants (2015), in response to feedback obtained from the Aboriginal community. The report used core sample analysis and additional data on tree and scar sizes to conclude the MA7 scar is estimated between</p>	Section 16 and Appendix U of the EIS

Aspect	Comment	Response	Reference
		<p>219 and 265 years old, placing the significance of the scar either in the pre-contact period or shortly after European contact.</p> <p>A range of management options were recommended, contingent on the cultural value of the tree as assessed by the aboriginal community included within the Revised Environmental Mitigation Measures (REMMs) for the MPW Concept Approval (REMM 12C)</p> <p>More recently, two onsite meetings were undertaken with relevant RAPs for the Proposal with respect to treatment options for MA7. As discussed in Section 16.2 and 16.4 of the EIS, the mitigation option which was endorsed by the RAPs during the meeting resulted in the following mitigation measure.</p> <ul style="list-style-type: none"> • <i>The scar portions of MA6 and MA7 would be removed by a qualified arborist and relocated to the TLALC property at Thirlmere, or a suitable area identified in consultation with Registered Aboriginal Parties (RAPs). The trees should be mounted and housed in a weather protected structure. All costs associated with the removal, relocation and housing of the trees would be covered by the Proponent. The relevant RAP would be responsible for the maintenance of the housing once established.</i> 	
	<p>In addition to the proposed impacts during the early works, the proposed stage will likely result in the impact of all six Aboriginal sites listed above (i.e. MA6, MA7, MA10, MA14, MPW Stage 2 Terrace PAD (PAD2), and the Tertiary Terrace between MA10 and 14) including a total loss in value of MA6 which has high archaeological significance and MA14 which has moderate to high archaeological significance. It is noted that avoidance of MA6 and MA7 will be considered, however there is no commitment to the protection of these sites and so it is assumed</p>	<p>As discussed Section 16 of the EIS and in the response above, management of scar trees MA6 and MA7 would involve removal and relocation of the scar portions to a site pre-approved by the RAPs for historic conservation. The cost would be borne by the Proponent and managed by relevant RAPs. This approach has been developed following extensive research into the condition of the heritage item (refer to Scarred Tree Assessment – MPW Concept Approval Response to Submissions), and consultation with relevant RAPs (refer to Section 16.2 of the EIS). This level of</p>	<p>Section 16.2 of the EIS</p>

Aspect	Comment	Response	Reference
	<p>they will be impacted resulting in “total loss of value” as described in Table 16-8 of the EIS.</p> <p>Appendix U (Artefact, 2016a) states that “Ongoing archaeological investigations within the MPW site indicate the potentially high archaeological significance of that site” (MA6) however, it only addresses this by stating that “further information on the archaeological significance of that site will be available following completion of mitigation measures for the MPW Project.”</p> <p>Considering the potential significance of MA6, the lack of investigation of the significance MA6 and how the proposed mitigation measure will impact on the significance of the site, the information provided is not adequate for determination of this Project. Appendix U recommends the development of an Aboriginal Cultural Heritage Assessment Report (ACHAR) to address this issue, however without this being undertaken as part of this EIS it is difficult to assess the extent in which the proposed works will impact on the indigenous heritage of the site and what the total impact to the heritage of the site will be.</p>	<p>investigation and assessment is considered adequate to understand the cultural significance of this item.</p> <p>The Aboriginal Heritage Assessment (refer to Appendix U of the EIS) and Section 16.3 of the EIS acknowledge direct impacts to MA6, MA7, MA10, MA14, MPW Stage 2 Terrace PAD and the tertiary terrace. Mitigation measures provided in Section 16.4 of the EIS include management of Scar trees (MA6 and MA 7 – outlined above), staged salvage excavation of MPW Stage 2 Terrace PAD and tertiary terrace, and salvage excavation of MA10 and MA14.</p> <p>The statement referred to from Appendix U was not in reference to MA6, but rather other items classified as high significance, including PAD2.</p> <p>An Aboriginal Cultural Heritage Assessment Report (ACHAR) would be prepared prior to construction commencing which would include written acknowledgement and sign-off from relevant RAPs regarding the findings of the assessment and mitigation options selected.</p>	
	<p>Technical Paper 10 of the Concept Approval identified that Aboriginal consultation with the RAPs indicated that some of the RAPs identify MA6 as a site of high significance to the community. As this significance was known from the concept investigations it is unclear why further investigations have not already been undertaken, such as the engagement of an anthropologist to understand the significance, rather than deferring these matters further. This additional anthropological work should be completed prior to any approval of this stage to ensure that the heritage significance of these works is understood and that the mitigation measures proposed are suitable.</p>	<p>The assessment process, as documented throughout the Concept Approval EIS and the EIS has provided a comprehensive review of both the level of cultural significance concerning heritage item MA6 (through historic literature review, field surveys and consultation with RAPs in accordance with OEH requirements), and the anticipated impacts to this item as a result of the Proposal. No further investigations are deemed necessary. An anthropological study would not provide any additional information that would change the outcomes of the study.</p> <p>As is outlined in Figure 16-1 of the EIS, the Proposal would result in direct impacts to heritage item MA6. This item was recognised</p>	<p>Section 16 and Appendix U of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>The Concept Approval identified that MA6 would be within the conservation areas of the proposed development. The proposed Stage 2 works, however, identify that the tree is now proposed for removal which is not consistent with the Concept Approval. This change in scope should be recognised in the EIS and more adequately assessed. As mentioned above the level of assessment of site MA6 is not adequate to determine the extent of impact.</p> <p>Additionally, Condition E19 states that <i>“All future applications relevant to MA6 and MA7 (scarred trees) shall include a consideration of options for managing impacts, including evidence of consultation with Registered Aboriginal Parties”</i>. Whilst RAPs were considered in the development of the proposed mitigation measures, it is unclear how this mitigation measure can be deemed acceptable if the significance of the site it not truly understood or recognised. It was even noted during the consultation process by members of the RAPs that scar trees are designed to stay in place in perpetuity as any removal is considered destructive and that if the tree is to be protected then a buffer zone should be added to the tree to ensure the tree is not removed in the future due to risk of injury to staff due to falling limbs. Whilst this condition does not specifically require justification of the chosen option or mitigation measure, suitable information should be provided to ensure an adequate assessment of the proposed works.</p>	<p>as being directly impacted within Technical Paper 10 (Southern rail access option) on page 110 and is therefore consistent with the MPW Concept Approval (SSD 5066). This impact is a result of bulk earthworks proposed to achieve site levels for drainage purposes and due to the location of MA6 being within the footprint for the warehousing area.</p> <p>Section 6.4 of the EIS outlines the extensive consultation that was undertaken with RAPs in considering various treatment options for MA6. The notion that the site is not truly understood or recognized is refuted, citing the scar tree condition assessment report (prepared for the MPW Concept Approval, Response to Submissions), numerous site inspections of the item, consultation with RAPs and a comprehensive review of historic information to inform the assessment forming Appendix U of the EIS. Condition E19 is therefore considered to be addressed.</p>	
Non-Indigenous Heritage	<p>The information provided within Appendix V and Section 17 of the EIS is very inconsistent in approach making it difficult to determine the total extent of heritage impacts and the proposed level of mitigation for non-indigenous heritage. The Moorebank Cultural Heritage Landscape is described in the EIS as being impacted through the disturbance of archaeological deposits, removal of landscape elements, partial loss of the existing</p>	<p>The extent of impacts on non-aboriginal heritage items associated with the Proposal is clearly outlined in Section 17.3 of the EIS. As stated <i>“All non-indigenous heritage items remaining onsite would be salvaged as part of Early Works.”</i></p> <p>As identified in Section 17.3 of the EIS, the Moorebank Cultural Landscape has been assessed as being of local heritage</p>	Section 17.3 and Appendix V of the EIS

Aspect	Comment	Response	Reference
	<p>landscape setting, historical associations and the landscape's research potential. Appendix V describes this impact as negligible above that assessed and approved in the MPW Concept Plan EIS, however, the cumulative impact of the culmination of stages 1 and 2 are not addressed. In order to ensure the impacts to this site are fully addressed this assessment should be revised to assess the impacts as a total rather than that above what is already assessed. This is especially true for this site as it is noted in Appendix V (Artefact, 2016b) that <i>"the archaeological deposits identified within the proposal (landscape) have the potential to yield information that would contribute to an understanding of its cultural history"</i> and that <i>"the landscape as a whole is also notable as a locally distinct and representative cultural landscape"</i>.</p>	<p>significance. Impacts to the Moorebank Cultural Landscape were assessed in detail within both the MPW Concept EIS and the EIS, and considered the numerous phases of land use and occupation spanning from pre-European settlement to today relating to the Moorebank area, which includes primarily the MPW site, in the context of the MPE site.</p> <p>These considerations, combined with ongoing consultation with the Moorebank Heritage Group and the Department of Planning would be reflected in both the Heritage Interpretation Strategy (HIS), (to be prepared prior to Early Works) and Heritage Interpretation Plan (HIP) (to be prepared during detailed design) for the Proposal.</p>	
	<p>The EIS has failed to assess the potential Noise and Vibration Impacts on adjacent sites Kitchener House and Glenfield Farm. Due to the heritage significance of these sites additional assessment should be undertaken to ensure the potential impacts to this site are completely considered.</p>	<p><u>Glenfield Farm</u></p> <p>The NVIA, included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. All noise impacts presented in the NVIA for Casula are those at the most affected location within the catchment, thereby presenting a worst-case assessment for Casula. Glenfield Farm was assessed in the EIS as a residential receiver within the Casula noise catchment.</p> <p>During operation, noise levels in Casula from the Proposal would generally comply with relevant criteria, including relevant sleep disturbance goals and generally would be lower than existing background noise levels. During periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed the established night time intrusiveness criterion at the most affected receivers in Casula (by 1 dBA).</p>	<p>Section 8 and Appendix N of the EIS</p> <p>Section 8 and Appendix D of this RfS.</p>

Aspect	Comment	Response	Reference
		<p>Exceedances of up to 1 dB are considered negligible and can be effectively mitigated.</p> <p>A Noise and Vibration technical memorandum was prepared for this RtS (refer to Appendix D of this RtS) to more accurately predict the impact of the Amended Proposal on L_{Aeq} rail noise at sensitive receivers in Casula. The revised assessment included additional monitoring of existing rail noise levels at three receivers in Casula, of which one (RM1) is representative of Glenfield Farm, which is still considered a residential receiver.</p> <p>The revised assessment predicted that Amended Proposal rail noise levels would generally comply with established NSW Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB at RM1. At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time L_{Aeq,period} rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does not warrant mitigation⁶. Please refer to Appendix D of this RtS for further details.</p> <p><u>Kitchener House</u></p> <p>In response to this submission, a Noise and Vibration Technical Memorandum has been developed to further assess the potential for vibration impact on Kitchener House (refer to Appendix D of this RtS), which, subsequent to design development, is established as a vibration sensitive receiver. The assessment investigates Kitchener House for potential impacts arising from the construction of the Amended Proposal in accordance with</p>	

⁶ It should be noted that the existing rail noise levels are greater than the contribution from the Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA L_{Aeq, 15 hour} and 60 dBA L_{Aeq, 9 hour} for daytime and night time, respectively

Aspect	Comment	Response	Reference
		<p>relevant international standards for vibration impacts on historic buildings.</p> <p>As established previously in the NVIA for the Proposal (refer to Appendix N), safe working distances in TCA (2012) have been developed specifically to satisfy the requirements of the EPA's vibration guideline – Assessing Vibration: a technical guide (DECCW, 2006) as requested by the SEARs. At the time of preparing the NVIA, no sensitive buildings or land uses had been identified within the safe working distances, of the identified construction plant, for cosmetic damage or human response, respectively.</p> <p>The findings of the Noise and Vibration Technical Memorandum indicate that activities most likely to generate vibration at Kitchener House would be the use of vibration-intensive equipment for road works along Moorebank Avenue, namely the use a vibratory roller.</p> <p>Based on the amended construction area for works on Moorebank Avenue, there is potential for construction plant to be operated approximately 20 metres from Kitchener House, which, depending upon the type and size of plant, could come within the safe working distance of Kitchener House. Recommendations have been made to identify vibration sensitivity of the heritage item through a dilapidation survey, and to restrict the use of plant and equipment according to safe working distances and the type of plant used (refer to Section 8 of this RtS for additional mitigation measures).</p>	
Recommendations	<ul style="list-style-type: none"> An ACHAR for sites MA6 and MA7 should be undertaken prior to determination to ensure the extent of heritage impacts as a result of the proposed works is fully understood. 	A CHAR would be prepared prior to construction commencing. Aboriginal consultation is considered adequate to understand cultural significance and meets OEH consultation requirements.	Section 6, 8, 16 and

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> An anthropological study should be included in the ACHAR to ensure that significance of the identified scarred trees is full understood and to make sure suitable mitigation measures are utilised in the Project going forward. The Non-Indigenous Heritage Impact Assessment should be revised to assess the cumulative impact on the Moorebank Cultural Heritage Landscape to ensure an adequate level of assessment has been undertaken and that the proposed mitigation measures are suitable. Additional assessment is required to determine the level of acoustic and vibration impacts on the listed heritage sites adjacent to the proposed development area. 	<p>Extensive consultation was undertaken in regard to the removal of scarred trees (refer to Section 6 and 16 of the EIS).</p> <p>An anthropological investigation into Scar Tree MA6 would not provide any additional information that would change the outcomes of the study.</p> <p>Detailed assessment of the Moorebank Cultural Landscape was provided in NOHC 2014, including an assessment of significance and impact assessment.</p> <p>Additional assessment has been undertaken in response to concerns raised regarding Noise and Vibration impacts to heritage buildings (Kitchener House and Glenfield Farm). This assessment is provided in Appendix D of this RtS, and additional mitigation measures are provided in Section 8 of this RtS.</p>	<p>Appendix D of this RtS.</p>
Soils, contamination and geotechnical			
Contamination	<p>The body of the EIS (Arcadis, 2016), specifically Section 13, is ambiguous in distinguishing the specific remediation works to be completed during Stage 2 of the Project. The section discusses in detail the contamination and remediation relevant to the Stage 1 Early Works phase of the Project. Content relating to contamination and remediation associated with Stage 2 is limited and brief. Table 13-5 of the EIS lists the potential contaminants remaining at the site after Early Works completion (relevant to the Project) as:</p> <ul style="list-style-type: none"> Stockpiles of demolition waste at the former sewerage treatment plant Stockpiles of demolition waste at the golf course 	<p>As explained in Section 13.3 and Appendix S of the EIS, the majority of remediation works required across the MPW site would be completed as part of Early Works. Remaining areas requiring remediation for the Proposal correspond to:</p> <ol style="list-style-type: none"> contamination areas requiring direct remediation occurring within Endangered Ecological Communities (EECs) which are not able to be remediated as part of Early Works (due to their location within EECs); and broadscale remediation issues that may be uncovered during construction works. <p>Areas requiring direct remediation are described in terms of their nature (i.e. contaminant of concern) within Table 13-5, and further</p>	<p>Section 13 and Appendix S of the EIS</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • Fill materials across the general site areas and in the north western corner of the site • Underground services that may contain hazardous materials • Groundwater across the general site areas, particularly in close proximity to watercourses <p>The body of the EIS (Arcadis, 2016) should provide more detail regarding the nature and extent of the contamination remaining following Stage 1 works and a more detailed discussion of the proposed remedial works. The discussion should refer to previous investigations where the contaminated areas were assessed. It is noted that Appendix S of the EIS contains some of this information however it is not well referenced within the body of the report.</p>	<p>defined by their physical extent relative to the Proposal site in Figure 13-3.</p> <p>As outlined in Table 13-6 of the EIS, direct asbestos remediation works would be undertaken in accordance with the Preliminary RAP (PB, 2014a) and the Asbestos Management Plan (AMP) to be prepared as part of the CEMP. As outlined in Table 13-6 of the EIS identifies direct remediation would be undertaken in general accordance with the following three step procedure:</p> <ul style="list-style-type: none"> • Step 1 - Excavation of contaminated materials and classification for offsite disposal at an appropriately licensed facility, or classified for onsite containment; • Step 2 - Chasing out of residual contaminated soils to the extent practicable; • Step 3 - Validation soil sampling; and excavation backfilling, where required. <p>Impacts associated with broadscale contaminants that may be encountered during construction, including asbestos in soils and anthropogenic fill, hazardous materials within underground services and groundwater contamination are described in Section 13.4.</p> <p>Previous investigations outlining assessment of contaminated areas, including the <i>Phase Two Environmental Site Assessment</i> (Parsons Brinkerhoff, 2014) and <i>Post-Phase Two Environmental Site Assessment</i> (Golder, 2015) have been summarised in Section 13.3 of the EIS. This section describes the potential contamination sources, intrusive sampling details and the verification of contaminated areas across the site undertaken for the MPW Concept Approval, which informed the development of a preferred remedial approach for the Proposal site.</p>	

Aspect	Comment	Response	Reference
Geology	<p>The EIS (Arcadis, 2016) notes that the geology of the site is comprised of shallow clayey sand soils, with frequent ironstone nodules. These soils typically are very prone to wind, sheet and rill erosion if exposed. Section 13.2.3 of the EIS states that the <i>“areas of the site to be raised (by importation of fill) would be made ready for receipt of materials through stripping of topsoil, levelling the site and removal of contaminated material as part of Early Works”</i>. Given that the local geology has a high susceptibility to erosion it is considered that the EIS should include more discussion regarding the management of erosion prone soils during stripping and levelling to ensure that potentially airborne or waterborne contaminants are sufficiently controlled.</p>	<p>While potential erosion and sedimentation issues are identified for the Proposal, it is important to note that activities including demolition of existing structures, removal of hardstand, vegetation removal and stripping of topsoil are to be undertaken as part of the approved Early Works (SSD 5066).</p> <p>Notwithstanding this, the high potential for erosion to occur during the importation and placement of fill on the Proposal site, given the scale of earthworks and soil type is recognized as a key potential impact for the Proposal in Section 13.2.3 and in Section 12.4.1 of the EIS.</p> <p>As discussed within Section 12.5.1 of the EIS, an Erosion and Sediment Control Plan and Soil and Water Management Plan (SWMP) would be prepared as part of the CEMP for the Proposal and implemented during the construction phase of the Proposal. These management plans would apply principles and requirements of the <i>Blue Book</i>, appropriate to soils of the Berkshire Park group, outlined in Section 12.5.1 of the EIS.</p> <p>A Stockpile Management Protocol has also been prepared to further guide the management of stockpiles, including but not limited, to erosion management (refer to Appendix L of this RtS). The Revised Stormwater and Drainage Design Drawings also provide further measures for the management of erosion (and sediment control) on the Proposal site during construction (refer to Appendix H of this RtS).</p>	<p>Sections 12 and 13 of the EIS.</p> <p>Appendix H and L of this RtS.</p>
Fill importation	<p>Section 13.2.3 of the EIS (Arcadis, 2016) states that approximately 1,600,000 m³ of clean fill would need to be imported to the site. The term “clean fill” is indistinct and unclear. It is recommended that the EIS include a specific definition of clean fill that describes what soil types are considered suitable</p>	<p>The term “clean general fill” refers to material meeting the NSW EPA’s resource recovery orders and exemptions, including but not limited to Excavated Natural Material (ENM) and Virgin Excavated Natural Material (VENM), according to EPA definitions for these materials.</p>	<p>Appendix L of this RtS</p>

Aspect	Comment	Response	Reference
	for import. The definition should include reference to any relevant NSW EPA guidelines.	Definitions for these material categories, and a protocol for management is included in the Principles of Stockpile Management Protocol, provided as Appendix L of this RtS.	
	<p>The EIS (Arcadis, 2016) states that approximately 1,600,000 m³ of soil will be imported to the site and used as fill material. Importation of soil from offsite sources is considered a high risk activity with respect to possible introduction of contamination including but not limited to asbestos and acid sulfate soils. The EIS should include a detailed description of the desired fill type and the process/procedure that will be implemented to ensure an adequate assessment of contamination has been undertaken.</p> <p>If possible the EIS should also provide an indication of the possible source(s) of imported fill e.g. surplus spoil generated during local civil projects. The volume of material required for importation is considered significant and the EIS should discuss the potential sources of soil.</p>	The fill selected to be imported to Proposal site would be accompanied with relevant waste classification certificates verifying that it is VENM/ENM and suitable for use as clean fill on the site (refer to Appendix L for definitions for both VENM and ENM). Further information regarding the fill importation procedure to ensure it of suitable quality and free from contamination is provided in the Principles of Stockpile Management Protocol (refer to Appendix L of this RtS).	N/A
	<p>Previous geotechnical critique was based on a distinct change in the Project resulting from the proposed Section 96 modification, which proposed a change from low to high import of materials. Insufficient discussion of suitability of the subgrade material for both founding conditions and contamination management was provided. The documents Golder (2016) stated i.e. the previous submission stated Golder (2016) that "Importation of sandstone fill presents a number of benefits for the management of asbestos contamination, potential UXO/EOW and subgrade performance issues". The revised assessment provides clarity in terms of the nature and geotechnical performance of ground conditions and how these conditions will be improved through compaction and capping, as well as subsequent targeted footing designs.</p>	<p>As discussed above, the clean fill to be imported to site, including that which would form subgrade material, would meet the NSW EPA's resource recovery orders and exemptions including but not limited to Excavated Natural Material (ENM) and Virgin Excavated Natural Material (VENM) (see above for definitions).</p> <p>Stockpiling of fill material would be undertaken in accordance with the Stockpile Management Protocol document, included within this RtS as Appendix L. As included within this document, and as a mitigation measure (refer to Section 8 of this RtS), the following would be required:</p> <ul style="list-style-type: none"> Section 143 agreement signed by both the producer and receiver 	Appendix L of this RtS

Aspect	Comment	Response	Reference
	<p>Golder (2016) discusses the importation of crushed sandstone from tunnelling projects across Sydney. Whilst crushed sandstone can be suitable as engineered fill, further parameters should be provided in regard to its environmental (e.g. saline) and geotechnical performance (clay and shale content). This should be addressed under a fill management protocol to ensure appropriate QA/QC in accordance with EPA, Council and Australian Standards.</p>	<ul style="list-style-type: none"> Waste Classification reports showing that the material received is VENM/ENM Geotechnical information showing that the material is fit for the purposes of Proposal. <p>Upon receipt of the material visual inspections will be undertaken to ensure that the material is free from contaminants. Additional validation testing will be undertaken on 10% of the material received to ensure that it is not contaminated.</p>	
Contamination	<p>Section 13.4.2 EIS (Arcadis, 2016) states that a site specific Remediation Action Plan (RAP) is not considered to be required for the Project. It is considered that the areas of the site requiring remediation during Stage 2 would be best managed by a site specific RAP, particularly given the potential for unexploded ordnance and buried waste to exist at the site. It is noted that the preliminary RAP was prepared by PB in 2014, however, since that date the site has been subject to substantial additional investigation and as such the preliminary RAP should be updated/revised to consider the results of any subsequent relevant environmental assessments following 2014.</p>	<p>As identified Section 13.3 of the EIS, existing documentation submitted to D&PE and approved for the MPW Concept Approval, includes the preliminary RAP, the Validation Plan (Golder, 2015) and the Demolition and Remediation Specification (Golder, 2015). These documents collectively provide the required remediation and/or management actions that would otherwise be outlined within a site specific RAP, and would be used as the guiding documentation for Proposal remediation activities.</p>	Section 13 and Appendix S of the EIS
	<p>The EIS (Arcadis, 2016) states that a GMP would be implemented for two years post operation of the Project. The EIS lists the objectives of the GMP but excludes a discussion regarding the capability of contamination originating at the site to potentially restrict the usability of nearby surface water bodies, particularly the Georges River. The river is commonly utilised by recreational and commercial users.</p> <p>The GMP should provide discussion regarding possible future PFAS contamination that exceeds acceptable levels (yet to be published) that could potentially restrict usage of the Georges River for recreational and commercial users. This scenario is</p>	<p>As outlined in Section 13.3 of the EIS, evidence suggests a potential exposure pathway exists between the PFAS source areas identified on the site and ecological receptors within the Georges River, presenting a plausible pathway for human health exposure through consumption of fish caught within the impacted area via recreational fishing.</p> <p>As per mitigation measures presented in Section 22 of the EIS, the main purpose of the GMP would be to assist in the management of groundwater contamination (particularly PFAS impacts) at the site, and to minimise potential harm to human</p>	Commonwealth Conditions of Approval (EPBC 2011/6086 – Condition 8)

Aspect	Comment	Response	Reference
	<p>particularly pertinent to PFAS, which have been identified in groundwater beneath the site and is understood to flow towards the Georges River. The implications of PFAS contamination to the Georges River and downstream receptors is potentially significant and requires more consideration in the EIS.</p>	<p>health and the environment. The GMP would be prepared as a sub-plan to the CEMP and would establish Groundwater Investigation Levels (GILs) and trigger levels in accordance with PFAS contamination for the site.</p> <p>Prior to the operation of the Proposal, and in accordance with Commonwealth Conditions of Approval (EPBC 2011/6086 - Condition 8), SIMTA have engaged an independent contamination consultant to conduct a literature review, analysis of site test data and preparation of a human health risk analysis (HHRA) with respect to PFAS contamination onsite, to be managed under a separate Approval. Discussions with the Accredited Site Auditor are ongoing and it is anticipated that this work will result in the development of a PFAS management plan (including AFFF). Areas identified to contain PFAS have been isolated as an exclusion zone until such time that the PFAS management plan is developed and accepted by the Accredited Site Auditor. It is envisaged that PFAS remediation would occur prior to commencement of the GMP, and residual groundwater monitoring associated with PFAS would be managed under the GMP.</p>	
Hydrology			
	<p>The summary of REMMs and SEARs in the EIS (Arcadis, 2016) (Table 1-1) provides references to where these items are addressed in the report, however the references are not specific enough to be clear on where various items are addressed. For example the first row of Table 1-1 refers to "EW Design Dwg". It is unclear what EW is (assume early works), or which design drawing is being referenced. Perhaps this is referring to the Erosion & Sediment Control Plan (E&SCP) in Appendix B. However this plan is for "Stage 1 Early Works", whereas this</p>	<p>EW Design Drawing refers to the Early Works Erosion and Sediment Control Drawing (SKC-MIC1-001-AA003760-01) provided in Appendix B (See Section 5.3 Early Works of Appendix R of the EIS). This plan should be for Early Works, as correctly titled, as it designates how erosion and sediment controls would be implemented prior to works commencement in the conservation area, to be maintained for the Proposal.</p>	<p>Section 12 and Appendix R of the EIS</p>

Aspect	Comment	Response	Reference
	<p>should be for Stage 2. Furthermore the preceding page to the E&SCP identifies the plan as the “Early Works Layout Plan”, which is contrary to the title of the plan.</p>		
	<p>The E&SC Plan has inadequate detail, and lacks standard requirements such as clean and dirty water drains and sediment basin details.</p>	<p>A Preliminary Erosion and Sediment Control Plan (ESCP) has been prepared to provide a high level detailed indication of how soils and water run off would be managed during the construction and operation of the Proposal. Key features of this plan, as outlined in Section 6.5 of Appendix R, among other management measures, include:</p> <ul style="list-style-type: none"> • The size and location of sediment basins, which are to be pumped out • The extent of sedimentation fencing for the site during construction • Details surrounding stabilized site access points and truck wash-down facilities <p>These aspects, in addition to flow paths and bunding directing surface runoff to basins are shown in drawings C-MIC2-SSD-101 and 102, provided in Appendix E of the Stormwater and Flooding report (Arcadis, 2016), Appendix S of the EIS.</p> <p>This level of information, reflective of the modelling undertaken, when coupled with mitigation and management measures listed in Section 12.5 of the EIS, provides a significant amount of detail to prepare both the ESCP and SWMP as part of the CEMP for the Proposal.</p> <p>Revised Stormwater and Drainage Design Drawings (refer to Appendix H of this RtS), have been prepared for the Amended Proposal as described in Section 6 of this RtS.</p>	<p>Section 12 and Appendix R of the EIS</p> <p>Section 6 and Appendix H of this RtS</p>

Aspect	Comment	Response	Reference
	<p>Reference is provided to Sections 5.3 and 5.4 (Arcadis, 2016) to address REMM 9B. These sections do not contain any discussion of site compounds, stockpiling, or storage areas for sensitive plant, equipment and hazardous materials as required by REMM 9B.</p>	<p>These sections were incorrectly referenced within this Report. See below for correct references to relevant information in addressing this SEAR.</p> <p>REMM 9B requires: <i>'Site compounds, stockpiling areas and storage areas for sensitive plant, equipment and hazardous materials would be located above an appropriate design flood level, which would be determined based on the duration of the construction works.'</i></p> <p>Georges River 100-year flood extents have been included on Figure 12-4 of the EIS. Figure 4-6 of the Proposal shows the construction layout, and indicates that with respect to these regional waters, key areas including the:</p> <ul style="list-style-type: none"> • IMT facility compound, • rail compound, • material crushing plant, • earthworks compound, • offices, • pre-construction & bulk earthworks stockpiling, • truck marshalling, <p>would be located above regional 100 year ARI flood levels, hence, facilitating temporary construction drainage works that would adequately protect key construction areas.</p>	<p>Sections 4, 12 and Appendix R of the EIS.</p>
	<p>Reference is provided to "C Design Drawing" to address REMM 9E. It is unclear what this is referring to.</p>	<p>The Reference "C Design Drawings" refers to the C series of design drawings found as Appendices to the Stormwater and Flooding Report (Appendix R of the EIS).</p>	<p>Section 12 and Appendix R of the EIS</p>

Aspect	Comment	Response	Reference
		<p>REMM 9E requires: <i>'For all site works, provide temporary diversion channels around temporary work obstructions to allow low and normal flows to safely bypass the work areas.'</i></p> <p>As indicated above, Figure 12-4 of the EIS indicates regional 100-year flood extents in relationship to the Proposal site. As the Proposal site works would be in areas above the regional 100-year flood extents, the works would facilitate the provision of temporary diversion channels around temporary work obstructions to allow low and normal flows to safely bypass the work areas.</p>	
	<p>REMM 9F requires assessment of effects of flood events on construction phase works. Reference is provided to DD Section 5 to address this REMM. It is unclear what DD means, or which sub-section within Section 5 addresses this REMM. Section 5.4 (Construction Phase) provides some general principles for flood mitigation, but no actual assessment appears to have been undertaken or presented.</p>	<p>The reference to "DD" relates to "detailed design", indicating that further investigation would be undertaken during the detailed design phase.</p> <p>REMM 9F requires: <i>'The potential effects of various flood events on construction phase works would be further investigated during detailed design and preparation of the Stage 2 SSD approval(s).'</i></p> <p>Section 5.5 of Appendix R and Section 12.5.2 of the EIS identifies the need for developing an Flood Emergency response and Evacuation plan. This plan (refer to Section 22 of the EIS) is to include the provision of safe refuge within the Proposal site (above PMF flood levels) until hazardous flows have subsided and safe evacuation is possible.</p> <p>Section 5.4 of Appendix R identifies the need to mitigate potential adverse flood impacts on neighbouring property that may result from construction phase works, and informs on 5 key design principles to be further investigated and detailed during detailed design.</p>	<p>Section 12, 22 and Appendix R of the EIS</p>

Aspect	Comment	Response	Reference
	<p>Reference is provided to “C Design Drawing” to address REMM 9K, which is with regards to surface water drainage infrastructure. It is unclear what this is referring to, perhaps it is the “Stormwater Drainage proposed catchment plan” in Appendix B.</p>	<p>The Reference “C Design Drawings” refers to the C series of design drawings found as Appendices to the Stormwater and Flooding Report (Appendix R of the EIS).</p> <p>REMM 9K requires: <i>‘The following staging process would be considered to be implemented when constructing surface water drainage infrastructure:</i></p> <ul style="list-style-type: none"> • <i>Biofiltration and detention basins that form part of the proposed stormwater management strategy would be excavated at the first phase of development, with the intention that the excavated basins would be used as temporary construction phase sedimentation basins. Once these construction phases become operational, these temporary construction phase sedimentation basins could be developed into the permanent biofiltration and detention basins.</i> • <i>During the relevant phase of development, all major stormwater pipes and culverts (600 mm diameter and larger) and main channels and outlets would be installed. Minor drainage and upstream systems would then be progressively connected to the major drainage elements during each phase of construction as required.’</i> <p>As outlined in Section 12.1 of the EIS, and Section 6.5 of Appendix R (and illustrated in drawings C-MIC2-SSD-101 & 102 and civil drawings C-MIC2-SSD-201 & 202 - Appendix E of Appendix R), the proposed biofiltration and detention basins that form part of the proposed stormwater management strategy are to be used as sedimentation basins during construction works. Several basins (namely Basin 5 and 6) have been sized to mitigate runoff from a slightly larger catchment area that what is required for construction, to accommodate their use during future development stages, and to become permanent detention basins</p>	<p>Section 12 and Appendix R of the EIS.</p> <p>Sections 6, 7 and Appendix H of this RTS.</p>

Aspect	Comment	Response	Reference
		<p>during site operation. Sections 6 and 7 and Appendix H of this RtS provide further details on the resizing of the basins undertaken as part of the Amended Proposal.</p> <p>The Stormwater and Drainage Design Drawings (C-MIC2-SSD-201 & 202 – Appendix E of Appendix R) provide a proposed stormwater drainage network, channels, culverts and outlets, that are to capture and convey runoff from adjacent proposed development areas and warehouses. During the relevant phase of development, these minor drainage and upstream areas would be progressively developed and connected. Sections 6 and 7 and Appendix H of this RtS provide further relating to the drainage design to be undertaken as part of the Amended Proposal.</p>	
	<p>REMM 9L details the elements which should be included in a Soil and Water Management Plan (SWMP). Reference is provided to “C Design Drawing” to address this REMM, however it is unclear what this is referring to. Assuming this is referring to the E&SCP provided in the appendices, this plan does not include any of the elements required by the REMM.</p>	<p>The Reference “C Design Drawings” refers to the C series of design drawings found as Appendices to the Stormwater and Flooding Report (Appendix R of the EIS).</p> <p>The Preliminary ESCP prepared for the Proposal (refer to Section 6.5 of Appendix R and drawings C-MIC2-SSD-101 and 102) and mitigation measures outlined in Section 12.5 of the EIS are designed to guide the preparation of the SWMP and ESCP for the CEMP prior to construction.</p> <p>All of the elements contained in REMM 9L are included as mitigation measures in Section 12.5 of the EIS, to be considered in the preparation of the ESCP and SWMP (sub-plans to the CEMP) prior to construction.</p>	<p>Section 12.5 and Appendix R of the EIS</p>
	<p>Reference is provided to “Design Drawing” and “C Design Drawing” to address REMMs 9M to 9S. It is unclear what this is referring to. It is noted that none of the drawings provided address these REMMs.</p>	<p>The Reference to “Design Drawings” refers to the series of design drawings found as Appendices to the Stormwater and Flooding Report (Appendix R of the EIS).</p>	<p>Section 4.2, 12.4, 14.4, 14.5 and 22 of the EIS</p>

Aspect	Comment	Response	Reference
		<p>REMM 9M requires: <i>'Procedures to maintain acceptable water quality and to manage chemicals and hazardous materials (including spill management procedures, use of spill kits and procedures for refuelling and maintaining construction vehicles/equipment) would be implemented during construction.'</i></p> <p>Section 12.4 of the EIS outlines the key objectives for water quality management, and procedures that would be put in place during construction and operation to maintain or improve existing water quality. Measures outlined in the Preliminary ESCP (as discussed earlier) would guide onsite separation and detention of dirty water, while management strategies outlined within the Blue Book (Vol. 1 and 2) for management of sites with high erosion potential would be adopted for adjacent to the Georges River. Water quality of site runoff would be further maintained through the implementation of Water Sensitive Urban Design (WSUD) measures, including Gross Pollutant Traps (GPTs) and Rain Gardens (bioretention systems).</p> <p>Section 14 of the EIS outlines potential hazards and risks arising from the construction process, and the measures that would be undertaken to manage/minimise them. As outlined in Section 14.5 and Section 22 of the EIS, a Pollution Incident Response Plan would be included within the CEMP that would include a Spill Management Plan.</p> <p>REMM 9N requires: <i>'Vehicles and machinery would be properly maintained to minimise the risk of fuel/oil leaks.'</i></p> <p>Section 14.5 of the EIS outlines a suite of mitigation measures to minimise leaks from vehicles and machinery.</p> <p>REMM 9O requires: <i>'Routine inspections of all construction vehicles and equipment would be undertaken for evidence of fuel/oil leaks.'</i></p>	

Aspect	Comment	Response	Reference
		<p>Section 14.5 of the EIS outlines a suite of mitigation measures to minimise leaks from vehicles and machinery.</p> <p>REMM 9P requires: <i>'All fuels, chemicals and hazardous liquids would be stored within an impervious bunded area in accordance with Australian Standards and NSW Environment Protection Authority guidelines.'</i></p> <p>As is noted in Section 14.4, a range of hazardous materials would be stored and used on site for refuelling and maintenance/firefighting purposes. Section 14.5 of the EIS includes the following mitigation measure:</p> <ul style="list-style-type: none"> • Storage of flammable/combustible liquids would be carried out in accordance with AS 1940, with secondary containment in place in a location away from drainage paths <p>REMM 9Q requires: <i>'Emergency spill kits would be kept onsite at all times. All staff would be made aware of the location of the spill kits and trained in their use.'</i></p> <p>Section 14.5 of the EIS outlines mitigation measures to minimise leaks and spills from vehicles and machinery. As outlined, spill kits would be located at the vicinity of the refuelling location on the site for locomotives, and staff would be trained in their use.</p> <p>REMM 9S requires: <i>'Construction plant, vehicles and equipment would be refuelled offsite, or in designated re-fuelling areas located at least 50 metres from drainage lines or waterways.'</i></p> <p>As outlined in Section 4.2 of the EIS, at this stage, the only refuelling capacity onsite would be for locomotives, through use of a mobile, self-bunded fuel storage tank located adjacent to the locomotive shifter, a distance significantly larger than 50 metres from the nearest watercourse or drainage line. It is therefore</p>	

Aspect	Comment	Response	Reference
		intended that, at this stage, onsite plant, vehicles and equipment would be refuelled at an offsite location.	
	The stormwater management plan provided (assuming this is the plan on Page 23 – there is no title) does not include sufficient detail in terms of flow conveyance in the 10%, 2% and 1% AEP events, as required by the 9V REMM.	<p>REMM 9U requires:</p> <p><i>'A stormwater management plan (or equivalent) would be developed in accordance with the detailed design. This includes the requirement to control the rate of stormwater runoff so that it does not exceed the pre-developed rate of runoff.'</i></p> <p>The Stormwater & Flooding Assessment (refer to Appendix R of the EIS) includes a preliminary stormwater management plan, providing commentary, modelling and drawings which are to form the basis for subsequent detailed design. A specific summary of the stormwater layout for the Proposal site, post development, is provided within the Stormwater and Drainage Design Drawings, included at Appendix F of Appendix R (Drawings C-MIC2-SSD-201 & 202). These drawings have been updated to consider the Amended Proposal and are included in Appendix H of this RtS.</p> <p>REMM 9V requires: <i>'The stormwater system would be designed such that flow from low order events (up to and including the 10% AEP event from the main part of the site, and up to and including the 2% AEP event for the rail access connection corridor) would be conveyed within the formal drainage systems. Flows from rarer events (up to the 1% AEP event) would be conveyed in controlled overland flow paths.'</i></p> <p>A plan layout of stormwater conveyance systems is provided within Stormwater and Drainage Design Drawings, found at Appendix F of Appendix R (Drawings C-MIC2-SSD-201 & 202) and revised in Appendix H of this RtS. Further discussion regarding the formal DRAINS modelling of conduit sizes, capacities, hydraulic performance, gradings and cover to confirm</p>	<p>Section 12.4 and Appendix R of the EIS</p> <p>Appendix H of this RtS</p>

Aspect	Comment	Response	Reference
		<p>conveyance adequacy is provided in Section 12.4 of the EIS and 5.2 of Appendix R of the EIS. The associated DRAINS modelling information 10% and 2% AEP event performances are provided in Appendix B of the Flooding and Stormwater Assessment undertaken for the EIS (refer to Appendix R of the EIS). 1% AEP overland flows are to be conveyed within the Proposal site road ways.</p>	
	<p>SEAR 8b details a range of requirements to be undertaken as part of the flood assessment. Reference is provided to Sections 4 and 5, however these sections do not adequately address the specific requirements of SEAR 8b.</p>	<p>SEAR 8B relates to reporting of <i>flooding impacts and characteristics, to and from the project, with an assessment of the potential changes to flooding behaviour (levels, velocities and direction) and impacts on bed and bank stability, through flood modelling.</i></p> <p>Assessment of changes to flood behaviour as a result of the Proposal is demonstrated through the flood modelling undertaken, which outlines the key flood risks to the Proposal site in terms of the existing environment (i.e. Georges River – Section 4 of Appendix R of the EIS), and changes to flood risk factors that would be generated through the Proposal (namely importation of fill to the site to achieve desired site levels – Section 4.2 of Appendix R of the EIS).</p> <p>It should be noted that there is no bridge or culvert design on the Georges River in the Proposal, and fill embankments are beyond the 100 year ARI flood extents of these waterways.</p> <p>As reported, the Proposal would result in negligible impact with respect to afflux and inundation periods on property within the Georges River floodplain. Climate change considerations are addressed in Section 5.2.5 of Appendix R of the EIS.</p>	<p>Section 4, 5 and Appendix R of the EIS</p>

Aspect	Comment	Response	Reference
		The flood behaviour assessment has undertaken in a manner which is consistent with relevant provisions of the NSW Floodplain Development Manual 2005.	
	Flood modelling includes a section of the Georges River only, and does not consider Anzac Creek. Previous proposals included a rail link and crossing over Anzac Creek, with supporting flood assessments. For completeness and transparency, it is suggested that a complete model be presented which includes Anzac Creek and the proposed rail link.	The proposed Rail link and its crossing of Anzac Creek is subject to a separate approval, SSD 6766 and therefore flood modelling as part of this Proposal is not considered relevant.	N/A
	<p>An annotation on Table 4-1 of the EIS (Arcadis, 2016) notes that the 'base case' flooding results actually reflect inclusion of the MPE Stage 1 Rail Link. This is somewhat misleading in that the 'base case' is in fact a developed scenario, which is not mentioned in the report when discussing impacts. It is suggested that Table 4-1 be modified as follows:</p> <ul style="list-style-type: none"> • Add a column to present existing scenario results. • Rename the "base case" column to "Stage 1 Rail Link". • Add a column to present impacts from the existing scenario. 	<p>Table 4-1 of the EIS (Refer to Section 4 of the EIS) relates to the details of warehouses seeking approval on the MPW site, and is not associated with flood modelling. It is therefore assumed the query relates to Section 4-1 of Appendix R, which discusses the flood assessment methodology. Section 4.1 of this report (refer to page 13), states:</p> <p>'A flood assessment of the Georges River has previously been undertaken to analyse potential flooding impacts that may result from the proposed 'Sydney Intermodal Terminal Alliance (SIMTA) Stage 1 Project, which includes the Rail link and associated Georges River railway bridge. That assessment's analytical (HEC-RAS modelling) approach and findings are presented in the SIMTA Stage 1 Project approval documentation ('SIMTA Intermodal Terminal Facility – Stage 1 Stormwater and Flooding Environmental Impact Assessment' dated 10 April 2015, by Hyder Consulting).</p> <p>To facilitate the Proposal site flood impact assessment, the April 2015 HEC-RAS model has been extended northward (adding River Stations 24 to 5) to beyond the northern extent of the</p>	Section 4, 12 and Appendix R of the EIS

Aspect	Comment	Response	Reference
		<p>Proposal site (as outlined in Figure 4-2). This extended model has served to determine 'Base-case' flood levels along the Georges River, with the 'Base-case' model approximating flood levels determined in the 'Upper Georges River Flood Study' by Department of Land & Water Conservation in conjunction with Liverpool City Council, December 2000 (discussed more fully in the SIMTA Stage 1 Project approval documentation).</p> <p>Subsequently, the Base-case (HEC-RAS) model has then been adjusted to represent raising of the Proposal site along the Georges River eastern overbank (outlined in Figure 4-2).'</p> <p>It is reiterated that the proposed Rail link is subject to a separate approval, SSD 6766. The purpose of the current modelling is to demonstrate that adequate flood mitigation measures have been implemented for the Proposal site. The model methodology and presentation of flood levels and flow regimes clearly inform adequate flood mitigation is provided. The Proposal assessment is thus considered appropriate and is not misleading in its approach.</p>	
	<p>Furthermore the report should elaborate on the scenarios used when discussing flooding impacts, i.e. impacts from the existing scenario, or impacts from the Stage 1 Rail Link scenario.</p>	<p>Addressed in above note.</p>	<p>Section 4.1 of Appendix R of the EIS</p>
	<p>PMF elevations appear to exceed cross section extents for a number of sections.</p>	<p>In locations where PMF elevations exceed section extents it is considered that the cross sections are sufficiently extended to represent effective flow widths and potential water surface level impacts that may result from the Proposal. Furthermore, the cross sections are representative of the DLWC/LCC model of December 2000 (referred to in Section 4.1 of Appendix R), which has been adopted by LCC to determine flood levels and extents along this length of the Georges River (up to the PMF).</p>	<p>Section 4.1 of Appendix R of the EIS</p>

Aspect	Comment	Response	Reference
Recommendations	<p>The recommendations below are identified to address the identified impacts associated with stormwater and flooding to allow a comprehensive assessment of the Project:</p> <ul style="list-style-type: none"> • Provide clear and specific references to where REMMs and SEARs are addressed in the report, including section, drawing title, drawing number etc. • Given that the development works area far exceeds 2,500 m², development of a SWMP would be appropriate, rather than an E&SCP, as per guidance contained within the Blue Book (Landcom, 2004). • A SWMP typically provides more detail than an E&SCP. As such, the following should be included in the SWMP, or additional supporting documentation provided in the report as necessary: <ul style="list-style-type: none"> – High-flow bypass weir designs for sediment basins. – Sediment basin overflow discharge locations and connections. The note provided advising that this be determined by the contractor is not considered to be sufficient for a project of this scale and significance. – Expected clean-out frequency of basins. – Clean and dirty water drains. • Extend flood modelling to include Anzac Creek and any proposed crossings. • Ensure all cross sections are sufficiently extended to capture PMF extents. • Present a complete model which includes Anzac Creek and the proposed rail link. 	<ul style="list-style-type: none"> • Appendix A of the EIS includes a table showing compliance with all Conditions of Approval, SEARs and REMMs relevant to the Proposal. • A SWMP will be prepared as part of the CEMP for the Proposal, as outlined in Section 12.5 of the EIS • The SWMP and ESCPs would be developed in accordance with the principles and requirements of the <i>Blue Book</i>, as required under both SEARs and REMMs for the Proposal, and based on the Preliminary ESCPs provided in the Stormwater and Flooding Assessment Report (Appendix R of this EIS). • The proposed Rail link and its crossing of Anzac Creek is subject to a separate approval, SSD 6766. • In locations where PMF elevations exceed section extents it is considered that the cross sections are sufficiently extended to represent effective flow widths and potential water surface level impacts that may result from the Proposal. • The purpose of the current modelling is to demonstrate that adequate flood mitigation measures have been implemented for the Proposal site. The model methodology and presentation of flood levels and flow regimes clearly inform adequate flood mitigation is provided. The Proposal assessment (including 'base case') is clearly documented and not misleading. <p>Sections 6 and 7 and Appendix H of this RtS provide further relating to the altered drainage design to be undertaken as part of the Amended Proposal.</p>	<p>Section 12.5 of the EIS.</p> <p>Sections 6, 7 and Appendix H of this RtS.</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • Add columns to Table 4-1 to include existing scenario results and impacts from this scenario. Rename the “base case” column to “Stage 1 Rail Link”. • Elaborate in the report on the scenarios used when discussing flooding impacts. 		
Hazard and Risk			
Refuelling station	<p>Section 4 of the EIS indicates that a mobile refuelling station would be located within the IMT facility for the refuelling of locomotives. It is anticipated that the refuelling station would consist of a self-bunded diesel fuel tank with a maximum capacity of 60,000 litres. In contrast, Section 22 of the EIS indicated that 190KL of diesel fuel would be stored onsite in two separate 97KL self-bunded tanks. Given the disparities outlined above, further clarification is required regarding the quantity of combustible liquids (i.e. class C1 diesel fuel) to be stored and handled at the site.</p>	<p>The reference within the EIS for two separate storage tanks totalling 190KL litres was carried through from the Concept Approval, which allowed for 5 x 97 kL category 5 storage tanks (pro-rata value was set at 2 x 97 kL tanks for Stage 2 i.e. the Proposal). This value was incorrectly presented within Section 22 of the EIS.</p> <p>Section 4 of the EIS reflects the subsequent design refinement (from the MPW Concept Approval) allowing a reduction to the amount of fuel storage onsite. The revised value being a 60KL tank situation adjacent to the loco shifter which is to be installed as part of this stage of development.</p> <p>As per the MPW Concept Approval EIS, the storage of flammable/combustible liquids would be undertaken in accordance with AS 1940, with secondary containment in place and location away from drainage paths (refer to Section 22 of the EIS).</p>	Section 4, 13 of the EIS
Operational Environmental Management Plan	<p>The EIS states that the Operational Environmental Management Plan (OEMP) will include a Pollution Incident Response Management Plan and a refuelling procedure. To supplement this documentation, the Environment and Health Section of Council has recommended that a Forecourt Management Plan is also prepared and implemented for the facility. The plan shall</p>	<p>Forecourt Management Plans are generally prepared for refuelling stations and facilities frequented by the public (e.g. a retail service station). As outlined in Section 14.4 of the EIS, an above ground mobile refuelling tank (approximately 60 KL capacity) would be located adjacent to the proposed locomotive shifter for the purposes of refuelling locomotives at the site. Given</p>	Section 21.3 of the EIS.

Aspect	Comment	Response	Reference
	<p>include details of daily operations and management of the forecourt area (including any policies, procedures and staff training). The Forecourt Management Plan is to be prepared in accordance with the 'Environmental Action for Service Stations' guideline prepared by the Department of Environment and Climate Change NSW (DEC 2008/52) dated October 2008.</p> <p>Furthermore, the Pollution Incident Response Management Plan shall be prepared in accordance with the Environmental Guidelines: Preparation of Pollution Incident Response Management Plans prepared by the NSW Environment Protection Authority dated 2012.</p>	<p>the extent and proposed use of this facility, it is not considered appropriate to prepare a Forecourt Management Plan at this stage of the Proposal.</p> <p>The operational use and nature of the proposed refuelling area would be adequately managed under the strict management protocols of the PIRMP, which would be prepared under the EPA's <i>Environmental Guidelines: Preparation of Pollution Incident Response Management Plans (EPA, 2012)</i>.</p>	
Recommendations	<ul style="list-style-type: none"> Further clarification is required regarding the quantity of combustible liquids (i.e. class C1 diesel fuel) to be stored and handled at the site as the refuelling station is noted that it would consist of a self-bunded diesel fuel tank with a maximum capacity of 60,000 litres. In contrast, Section 22 of the EIS indicated that 190KL of diesel fuel would be stored onsite in two separate 97KL self-bunded tanks. It is recommended that a Forecourt Management Plan be prepared to supplement the OEMP, Pollution Incident Response Management Plan and a refuelling procedure. The Pollution Incident Response Management Plan should be prepared in accordance with the Environmental Guidelines: Preparation of Pollution Incident Response Management Plans prepared by the NSW Environment Protection Authority dated 2012. Considering the potential risks and hazards to the local community and environment, Council also requests they be provided with draft copies of all site emergency management plans (including the Pollution Incident Response 	<ul style="list-style-type: none"> Section 4 of the EIS presents the design refinement (for this stage only) from the MPW Concept Approval allowing a reduction to the amount of fuel storage onsite. The revised and confirmed value at this stage is a self bunded 60KL tank adjacent to the loco shifter. Refuelling procedures would be undertaken on private property and would not be accessible by the public. It is therefore not considered appropriate to prepare a Forecourt Management Plan at this stage of the Proposal. The Pollution Incident Response Plan would be prepared in accordance with the Preparation of Pollution Incident Response Management Plans prepared by the NSW EPA. Preparation of emergency management plans would be undertaken as part of the CEMP (Refer to Section 8 of this RtS). 	Section 4 of the EIS

Aspect	Comment	Response	Reference
	Management Plan) for review to allow any comments to be provided prior to construction and operations commencing as part of the construction certificate requirements.		
Visual Amenity			
Methodology	<p>The findings of the VIA associated with the EIS are favourable for the Project. This is potentially due to the assessment not thoroughly covering all potential visual impacts. There are 8 viewpoints used to assess the visual amenity impacts of the Project. Viewpoint 05 (looking north northeast) does not face the proposed development and Viewpoint 06 (looking east) only observes the final northern extent of the site. If these viewpoints were looking southeast, they would instead be looking directly at the Project and it is anticipated that their Visual impact would be increased negatively. Similarly, Viewpoint 07 could be located at the intersection of Moorebank Avenue and Anzac Road, which is much closer to the Project than its assessed location, which would also negatively increase its visual impact.</p>	<p>The viewpoints selected for the visual impact assessment undertaken for the Proposal (refer to Appendix T of the EIS) are consistent with those used for the MPW Concept Approval (SSD 5066).</p> <p>Viewpoint 5 is facing north-east toward the northern corner of the site from Casula. Given the low lying topography of this area, it would be unlikely that shifting this view southeast from this location would result in a change to the overall assessment. Furthermore, viewpoints 6, 4 and 3 assess the broader central aspects of site from higher vantage points where the development would actually be visible.</p> <p>The view from viewpoint 7 captures a more substantial vantage than the Moorebank/Anzac intersection. Making this change as suggested would not alter the overall visual impact assessment outcome.</p>	Section 15 and Appendix T of the EIS.
	Viewpoint 02 has had its visual impact understated. This viewpoint is from Leacock Regional Park, which is frequented for exercise and by dog walkers. The Park also includes a heritage site. From the artists site impression, the visual outlook from this site has changed from an elevated outlook over what appears under the current visual scenario as limited warehousing dispersed amongst a heavily treed area. The future outlook would primarily comprise the warehousing within the MPW site. This is a significant change from a natural outlook, to an	The views depicted for view 2, on page 34 of the Visual Impact Assessment (VIA – refer to Appendix T of the EIS) are adapted from photos taken from the vantage point. The warehouse buildings shown in the simulated view are the central warehouses included within the Proposal, and not the full build scenario. The views depicted for view 2 are therefore representative of visual impacts generated by the Proposal.	Section 15 and Appendix T of the EIS

Aspect	Comment	Response	Reference
	<p>industrial outlook and is more appropriately categorised as High/Moderate or High.</p> <p>Viewpoint 04 has been assessed under the best case scenario. The artist's impression shows no noticeable change to the outlook from the Casula Powerhouse site. The impression is dominated by the Powerhouse in the foreground of the site, with very little exposed background. This viewpoint should have been taken facing east, with the Powerhouse behind the photographer. This would give a better understanding of the visual impact of the Project on the Powerhouse when users are enjoying the open space around the site rather than when they are looking at the Powerhouse building. This conservative assessment has understated the visual impacts on the Casula Power Station.</p>	<p>As stated in the VIA (page 41 – refer to Appendix T of the EIS), viewpoint 4 is taken from outside of the Casula Powerhouse Arts Centre. This area is publicly assessable and is heavily enclosed with vegetation due to its topography that limits exposure to the proposed development.</p> <p>The viewpoint is facing due east, with the powerhouse building only partially visible in the far right portion of the photomontage. A revised photo with the Powerhouse behind the viewer would not change the outcome of the assessment.</p>	<p>Section 15 and Appendix T of the EIS</p>
<p>Construction assessment</p>	<p>The visual assessment for the construction scenario is very limited. With the construction activities anticipated to be ongoing for 36 months, a much more rigorous assessment should be conducted. The findings of this assessment are anticipated to identify that the visual impact of construction activities would negatively impact the amenity of the surrounding area due to the scale of vehicle movements and on site infrastructure, such as cranes and associated plant, all of which receives limited consideration in the assessment.</p>	<p>As stated in Section 15.4 of the EIS and the VIA (refer to page 52 – Appendix T of the EIS), during construction the most visible aspects of the Proposal would likely be cranes and piling rigs. These aspects are likely to be visible from Moorebank Avenue, nearby passenger lines and the nearby residential areas of Casula and Wattle Grove. These aspects are considered to be non-intrusive, localised and temporary in nature with respect to the broader landscape.</p> <p>The VIA undertaken took into consideration the periods of time involved in construction and the length of time that visually intrusive plant (i.e. cranes) would be visible. The provision of mitigation measures to reduce overall visual impacts during construction are considered adequate, which include the consideration of artwork on hoardings to attenuate visual impacts to pedestrians and road users.</p>	<p>Section 15 Appendix T of the EIS</p>

Aspect	Comment	Response	Reference
	<p>The Concept Approval found that construction visual impacts ranged from Negligible to Moderate/High, however the highest construction visual impact is Moderate, which demonstrates a reduction in visual impact between assessments. Moderate/High impacts were assessed for many viewpoints in the Concept Approval due to tall cranes above the tree line, however this EIS assessment does not have any viewpoints rated Moderate/High for visual impact. This is particularly not appropriate when assessing Viewpoint 08, as construction activities will be high visible along Moorebank Avenue. The Concept Approval submission found that construction activity would be generally limited to day time hours, with lighting located in areas that would limit light spill, which is consistent with the Stage 2 EIS submission.</p>	<p>The MPW Concept Approval assessed the visual impacts of the 'full build' design, while the Proposal visually assesses Stage 2 of the MPW Project (i.e. a smaller development than that proposed in the full build).</p>	<p>N/A</p>
<p>Operational assessment</p>	<p>The results of the VIA suggest that overall the impact of the Project on the visual amenity of the area is Low/Moderate. This assessment is highly dependent on maintaining the vegetation buffer between the MPW site and the Georges River. If this buffer was to be removed in future planning iterations, it is anticipated that the visual impact of the site would generally shift to High/Moderate or even High.</p>	<p>The conservation area is an established component of the Proposal and provides a visual impact buffer to residents of Casula. The area includes a large riparian area of native and introduced vegetation to the west of the Proposal site, intersected by three drainage channels required for site drainage (these channels have been assessed within the revised VIA, refer to Appendix I of the RtS). The conservation area is to be included as a biodiversity offset area in the Biodiversity Offset Package, required to be prepared under Condition D17 of the MPW Concept Approval (SSD 5066).</p> <p>A biobanking agreement application was submitted to OEHS in March 2017. The purpose of this proposed agreement is to secure the offset areas by establishing a biobank site. Management actions will be taken to maintain or improve the biodiversity values of the offset areas.</p> <p>In consideration of this, the vegetation within the conservation area would maintain a constant and long term visual buffer for</p>	<p>Appendix I of the RtS</p>

Aspect	Comment	Response	Reference
	<p>The Concept Approval also assessed the impacts that the MPW site would have during operation. The Concept Approval found that the visual impacts during operation ranged from Negligible to Moderate/High, which has not been reflected in the Stage 2 EIS. The highest assessed impact during operation was determined to be Moderate, which is a downgrade on the findings of the Concept Approval EIS. The Concept Approval EIS found that the greatest visual impact would be on the public park and residential receptors in the elevated areas to the west of the Georges River. This has been reflected in the Stage 2 EIS, however there is a downgrade of the overall visual impact from Moderate/High to Moderate. The Concept Approval also determined that these same residential receptors would experience a noticeable change in brightness of the area on a clear night, however the Stage 2 EIS has assessed that there will be minimal impact to residential receptors on the western bank of the Georges River. The warehouse aspect of the development was found to dominate views of the MPW site in the Concept Approval and this has also been reflected in the Stage 2 EIS. Both assessments suggest that established landscaping will reduce the impacts, however neither assessment take into account the time that would be required for this landscaping to be established.</p> <p>The Stage 2 EIS assessment of the Project has varying consistency with the MPW Concept Approval and importantly the visual impacts have been unappropriately been downgraded for this submission.</p>	<p>this Proposal and further stages under the MPW Concept Approval.</p> <p>The VIA prepared for the MPW Concept EIS considered full build operations for a number of separate railway access options. The eventual railway access option selected for the Proposal (southern rail access) was considered to generate the least visual impact of the options, hence reflected in a downgraded level of impact. Furthermore, the VIA undertaken for the Proposal (refer to Appendix T of the EIS) by nature does not consider any visual impacts that would be incurred as a result of future development stages (i.e. the full build).</p>	<p>N/A</p>

Aspect	Comment	Response	Reference
Recommendations	<ul style="list-style-type: none"> • A more thorough VIA should be conducted for the construction and operational scenarios to ensure that the worst case visual impacts are captured and understood. With this assessment only using 8 viewpoints, rather than up to 20 viewpoints utilised for a previous assessment of the MPE site, it would appear that this assessment may not have captured all potential impacts of the Project. One viewpoint that must be assessed is Moorebank Avenue intersection of the East Hills Rail Line looking northwest. • Impacts of cranes required for construction should be assessed to capture their visual impact during construction. • It is recommended that container stacking height be limited to the height of the planted screen. This will reduce the visual impact of the Project, particularly from viewpoints 07 and 08. Planting heights should be considered as short term buffer rather than full mature tree growth (20-30 years). This will ensure that the negative visual amenity impact is reduced in the short – medium term. • It is recommended that artist mock ups of the development include stacked containers at full stack height, with mismatched colour schemes, to simulate the facility in operation. This will allow for the colour impact on the visual amenity to be assessed. • Impacts of the new rail spur were not assessed. Additional assessment from areas adjacent to the new rail corridor are required to understand the visual impacts generated. Careful assessment must be undertaken to exclude assessed impacts of the MPE development to not influence the MPW assessment. 	<ul style="list-style-type: none"> • As stated above, the viewpoints selected have been re-created to match those represented in the Clouston Associates report for consistency with the MPW Concept EIS. • Visual impacts associated with cranes are assessed in Section 15.4 of the EIS and 7.1 of the VIA (refer to Appendix T of the EIS). Although visible, these impacts are considered to be non-intrusive, localised and temporary in nature, when considered in the context of the broader landscape from sensitive receivers. • The visual impacts from the operation of the Proposal at these two viewpoints have been assessed in Section 15.4 of the EIS would be Low/Moderate and Moderate for viewpoints 07 and 08 respectively. Restricting container stacking heights would compromise the efficiency of the terminal. Stacking heights proposed comply with all relevant local environmental planning policies. 	Section 15 and Appendix T of the EIS

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> Additional assessment should be undertaken to assess the Project against other potential land uses like residential/mixed use to determine the specific influence of this development compared to others. 		
Greenhouse Gas and Ecologically Sustainable Development			
Assumptions	<p>Although the structure of the assessment into various phases provides a reasonable approach to assessing the quantum of emissions, the basis for many of the assumptions used in the GHG assessment calculations are not provided. Therefore it is difficult to cross check the assumptions and correlations between the assumptions used in other key impact assessments such as for traffic and air quality to ensure consistency of data inputs which are used for the GHG assessment.</p> <p>It is also noted that Section 18.2.2 Assumptions and Exclusions has referenced National Greenhouse Accounts (NGA) Factors as the 2015 NGA factors used to base emission calculations upon. It is noted that these NGA factors are regularly reviewed and revised to ensure GHG emission accounts use the latest available information. More current NGA factors were released in August 2016 and as the EIS was dated October 2016 the GHG assessment should therefore include a review of any potential changes and provide reference to this latest version of the NGA Factors.</p>	<p>SEARs pertaining to the assessment of Greenhouse Gas (GHG) emissions required an update and review GHG emissions in reference to the MPW Concept Approval GHG Assessment. Consequently, and as noted in Section 18.2.2, the GHG Assessment has been prepared to update the GHG assessment undertaken by Parsons Brinkerhoff as part of the MPW Concept Approval.</p> <p>Section 18.2.2 provides a detailed list of assumptions applied to the GHG Assessment. Section 18.4 provides additional assumptions, description of activities and timeframes as applicable. For additional detail on assumptions applied to the GHG Assessment the EIS should be read in conjunction with the MPW Concept EIS.</p> <p>It is acknowledged that updated NGA factors were released by the Commonwealth Department of the Environment (DoE) in August 2016. A review of factors used for the GHG Assessment as part of the EIS confirmed that no factors used in the quantification of GHG emissions within the EIS have changed from the 2015 factors. Consequently, the results presented in the GHG Assessment would not be altered by adoption of the 2016 NGA factors.</p>	Section 18 of the EIS.

Aspect	Comment	Response	Reference
Relationship to other impact assessments	Some inconsistencies in emission estimates within these (traffic and air quality) assessments have been identified which raises the question that assumptions used in the GHG assessment may not be fully representative of the Project. Therefore the GHG assessment should be reviewed to consider any further work or amendments suggested to either the traffic or air quality assessments.	<p>It is not clear which elements of the GHG Assessment have been considered as inconsistent. As noted above the GHG Assessment has been prepared to address the SEARs, via review and update to the MPW Concept Approval GHG Assessment.</p> <p>A review of key aspects within the MPW Concept EIS provided conservative estimates of key inputs assessed within the GHG Assessment (namely diesel usage for operational equipment and locomotives). It is acknowledged that fuel usage identified within the GHG Assessment, as based on the MPW Concept EIS, has provided a worst case / conservative predicted fuel consumption volume. Any inconsistencies between the GHG Assessment and air quality impact assessment are therefore in the form of overestimation, and therefore worst case assessment, within the GHG Assessment.</p> <p>Section 18.2.2 of the EIS notes diesel within heavy vehicles is excluded from the EIS as heavy vehicles would no longer be owned by the Proponent (now SIMTA however previously MIC) (as compared to the assumptions provided in the MPW Concept EIS) and therefore are deemed as Scope 3 emissions and excluded from the assessment. Consistency with the traffic impact assessment has therefore not been considered further.</p>	Section 18 of the EIS.
Review of Mitigation Measures	A number of mitigation measures have been included in the GHG assessment which are generally sound, however the following details of specific mitigation measures noted in Table 3: Revised Environmental Management Measures (REMMs) prescribed for the MPW Concept Plan Approval and analysis of relevance to the Proposal have not been discussed or addressed appropriately in Section 18 of the EIS as is stated:	SIMTA are committed to implementing the Revised Environmental Management Measures (REMMs) in addition to the proposed mitigation measures within the EIS (refer to Section 22 of the EIS and Section 8 of this RtS). REMM 11A and 11E would be implemented during the construction and operation of the Proposal.	Sections 18 and 22 of the EIS. Section 8 of this RtS.

Aspect	Comment	Response	Reference												
	<table border="1"> <thead> <tr> <th>REMM</th> <th>Mitigation Measure</th> <th>Comment</th> </tr> </thead> <tbody> <tr> <td>11A</td> <td>Consider the use of vehicles with minimum emissions ratings of 7.5 for passenger vehicles and 6 for light commercial vehicles, as described in the Green Vehicle Guide (http://www.greenvehicleguide.gov.au/GVGPUBLICUI/home.aspx).</td> <td>This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.</td> </tr> <tr> <td>11E</td> <td>Establish an Environmental Management System (EMS) that involves regular monitoring, auditing and reporting on energy, resource use and GHG emissions from all relevant activities; include energy audits with a view to progressively improving energy efficiency and investigation of renewable energy sources (e.g. onsite solar generation), where feasible.</td> <td>This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.</td> </tr> <tr> <td>11F</td> <td>Investigate methods to reduce losses from industrial processes (refrigerants and SF6).</td> <td>This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.</td> </tr> </tbody> </table>	REMM	Mitigation Measure	Comment	11A	Consider the use of vehicles with minimum emissions ratings of 7.5 for passenger vehicles and 6 for light commercial vehicles, as described in the Green Vehicle Guide (http://www.greenvehicleguide.gov.au/GVGPUBLICUI/home.aspx).	This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.	11E	Establish an Environmental Management System (EMS) that involves regular monitoring, auditing and reporting on energy, resource use and GHG emissions from all relevant activities; include energy audits with a view to progressively improving energy efficiency and investigation of renewable energy sources (e.g. onsite solar generation), where feasible.	This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.	11F	Investigate methods to reduce losses from industrial processes (refrigerants and SF6).	This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.	<p>As noted in Section 18.2.2 refrigerated containers will no longer be stored (at this stage) at the IMT facility under the Proposal (when compared to the MPW Concept Approval), however some warehousing may be refrigerated. The Proposal GHG Assessment identified that GHG emissions produced as a result of refrigerant leakage (namely HFC R134a) and SF6 would equate to approximately 2.6% of total annual operational GHG emissions. Emissions produced as a result of losses from industrial processes are considered minor and no additional mitigation measures have been considered.</p>	
REMM	Mitigation Measure	Comment													
11A	Consider the use of vehicles with minimum emissions ratings of 7.5 for passenger vehicles and 6 for light commercial vehicles, as described in the Green Vehicle Guide (http://www.greenvehicleguide.gov.au/GVGPUBLICUI/home.aspx).	This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.													
11E	Establish an Environmental Management System (EMS) that involves regular monitoring, auditing and reporting on energy, resource use and GHG emissions from all relevant activities; include energy audits with a view to progressively improving energy efficiency and investigation of renewable energy sources (e.g. onsite solar generation), where feasible.	This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.													
11F	Investigate methods to reduce losses from industrial processes (refrigerants and SF6).	This detail has been discussed in sufficient detail within Section 18.2 of the EIS and is noted.													
Recommendations	<p>Based on this review, it has been identified that the GHG assessment for the Project:</p> <ul style="list-style-type: none"> Needs to provide further detail as to the basis of assumptions used to calculate emissions Needs to provide further information which correlates assumptions used in both the traffic and air quality impact assessments. The GHG assessment should provide further review and assessment of aspects identified in the REMMs (refer to Table 3 of Appendix A of the EIS (Arcadis 2016)) and further details incorporated into the mitigation measures to outline how aspects identified in the above table will be included in the Project. 	<ul style="list-style-type: none"> Section 18.2 of the EIS provides a detailed list of assumptions applied to the GHG Assessment. Section 18.4 provides additional assumptions, description of activities and timeframes as applicable. For additional detail on assumptions applied to the GHG assessment the EIS should be read in conjunction with the MPW Concept EIS. As discussed, it is not clear which elements of the GHG Assessment have been considered as inconsistent. As noted above the GHG Assessment has been prepared to address the SEARs, via review and update to the MPW Concept Approval GHG Assessment. As noted in Section 18.2.2 refrigerated containers will no longer be stored (at this stage) at the IMT facility under the Proposal (when compared to the MPW Concept Approval), however some warehousing may be refrigerated. The 	Section 18 of the EIS												

Aspect	Comment	Response	Reference
		<p>Proposal GHG Assessment identified that GHG emissions produced as a result of refrigerant leakage (namely HFC R134a) and SF6 would equate to approximately 2.6% of total annual operational GHG emissions. Emissions produced as a result of losses from industrial processes are considered minor and no additional mitigation measures have been considered.</p>	
Property and Infrastructure			
Rail link	<p>What is not identified in the EIS is impacts of Rail Infrastructure on the property. As the MPW site will require rail access, it will be necessary to connect to the SSFL. This will require significant construction activities associated with rail turnouts and a new rail corridor to access the MPW site. It will also require the construction of a new Georges River bridge crossing, which will have impacts on the existing waterway.</p> <p>Appendix F of the EIS states that the connection to the SSFL will take place through the existing Glenfields Waste Facility. This will involve significant changes to the land use of this area and potentially require a change in land ownership. These details have not been explored in the EIS, with thorough investigation required prior to progressing through the approvals process.</p>	<p>As mentioned in Section 1.2 of the EIS, construction of the proposed Rail link and its crossing of the Georges River is subject to a separate approval, SSD 6766.</p>	<p>Section 1.2 of the EIS.</p>
Developer contributions	<p>The proposal has identified the requirement for changes to some existing infrastructure to ensure sufficient service is provided to the proposed development. Such infrastructure includes intersection upgrades as discussed earlier in the traffic assessment and augmentation to Sydney Water and Endeavour Energy utilities. The EIS has not identified specific contributions that the developer will provide to these organisations and has highlighted that the contributions will be address when required. This is vague and creates uncertainty as to the general scope of</p>	<p>Condition of Approval E13 for the MPW Concept Approval (SSD 5066 3 June 2016) identifies:</p> <p>E13. All future Development Application shall include:</p> <p><i>a) an assessment of the impacts of the project on local infrastructure, having regard to any relevant Council's Developer Contributions Plan (or equivalent document requiring developer contributions);</i></p>	<p>Section 20.3.4 of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>developer contributions. The framework for developer contributions should be mentioned and estimated costs quantified to give Council, Sydney Water and Endeavour Energy an understanding of anticipated contributions to infrastructure upgrades.</p>	<p><i>b) a commitment to pay developer contributions to the relevant consent authority or undertake works-in-kind towards the provision or improvement of public amenities and services. Note: This requirement may be satisfied subject to the terms of any applicable Voluntary Planning Agreement; and</i></p> <p><i>c) a commitment to undertake vehicle monitoring on Cambridge Avenue. Should any monitoring reveal the need for improvement works within the Campbelltown LGA as a result of the proposal, the Applicant may be required to contribute towards local road maintenance or upgrades.</i></p> <p>The above requirements are addressed within Section 20.3.4 specifically referencing Liverpool City Council's principles of establishing developer contributions under the Liverpool Contributions Plan 2009.</p> <p>It is SIMTAs intention to pay developer contributions as it is prescribed in the existing CoA and is identified within the EIS.</p> <p>Any contribution needs to take into account works in kind which would be undertaken to the benefit of the developer, LCC and the community (eg through maintenance/improvement of existing water management system and catering for background traffic growth respectively).</p> <p>The staged nature of this MPW Project requires that Development Contributions are considered as part of subsequent development applications and the impact associated with those stages under the MPW Concept Approval (SSD 5066).</p> <p>Further, it is noted that the Liverpool City Council Contributions Plan does not consider industrial development within the Moorebank area. Any proposed contribution should therefore be consistent with surrounding industrial areas taking into account</p>	

Aspect	Comment	Response	Reference
		the mitigating circumstances and key considerations identified above.	
Waste			
Construction	<ul style="list-style-type: none"> • Characterisation of construction waste streams – further detail needs to be provided in the Construction Environmental Management Plan (CEMP) to ensure materials are characterised and segregated to avoid potential cross contamination or mixing of recyclable or reusable wastes from non-recyclable and/or hazardous wastes. • Hazardous materials – further detail needs to be provided in the CEMP on how hazardous materials will be identified, managed, handled, and disposed of in a lawful manner to ensure no further harm to the environment or personnel on site. • Targets for reuse and recycling of waste – further detail needs to be provided in EIS and CEMP to better outline how performance targets will be set, monitored and reported on during construction. • Education initiatives – all waste management implementation plans designed to deliver the <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-2021</i> targets need to include an education and behaviour change element. Therefore further details should be incorporated in the CEMP on how education and training programs will be provided and waste management objectives are communicated to all staff working on the site. This should include information in formal training and induction programs for all personnel, provision of appropriate waste bins and signage providing clear 	<ul style="list-style-type: none"> • Characterisation of construction waste streams in accordance with the <i>NSW Waste Classification Guidelines</i> has been included as a mitigation measure (refer to Section 22 of the EIS), with details to be provided in the CEMP. • Identification, storage, management, handling and disposal of hazardous materials is discussed in Section 14 of the EIS, while hazardous waste streams are identified in Section 20.1 of the EIS. As outlined in Section 22 of the EIS, Management of any identified hazardous waste streams would be implemented as part of the CEMP for the Proposal. • Procedures and targets for re-use and recycling of waste materials is included within Section 20.1 of the EIS as a measure that would be incorporated in the CEMP for the Proposal • An education programme and on-going monitoring for training personnel to properly sort and transport waste into the right components and destinations is included within Section 20.1 as a measure to be included into the OEMP for the Proposal. 	Section 14, 20 and 22 of the EIS

Aspect	Comment	Response	Reference
Operations	<p>communications on where and how recyclable, reusable and waste material should be stored and managed.</p> <ul style="list-style-type: none"> • Targets for reuse and recycling of waste – further detail needs to be provided in the EIS and OEMP to better outline how performance targets will be set, monitored and reported on during operations. • Education initiatives – Further details should be incorporated in the future OEMP on how education and training programs will be provided and waste management objectives are communicated to all staff working on the site. This should include information in formal training and induction programs, access to site management plan requirements for all personnel, provision of appropriate waste bins and signage providing clear communications on where and how recyclable, reusable and waste material should be stored and managed. 	<ul style="list-style-type: none"> • A number of measures designed to encourage waste reuse, recycling and waste minimisation are provided within Section 20.1 of the EIS, for inclusion into the OEMP. • An education programme and on-going monitoring for training personnel to properly sort and transport waste into the right components and destinations is included within Section 20.1 as a measure to be included into the OEMP for the Proposal. 	Section 20.1 of the EIS
Recommendations	<ul style="list-style-type: none"> • Education initiatives – All waste management implementation plans designed to deliver the NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 targets need to include an education and behaviour change element. Therefore further details should be incorporated in both the CEMP and OEMP to provide details on how education and training programs will be provided and waste management objectives are communicated to all staff working on the site. This should include information in formal training and induction programs for all personnel, provision of appropriate wastebins and signage providing clear communications on where and how recyclable, reusable and waste material should be stored and managed. 	<ul style="list-style-type: none"> • An education programme and on-going monitoring for training personnel to properly sort and transport waste into the right components and destinations is included within Section 20.1 as a measure to be included into the OEMP for the Proposal. • Characterisation of construction waste streams in accordance with the <i>NSW Waste Classification Guidelines</i> has been included as a mitigation measure (refer to Section 22 of the EIS), with details to be provided in CEMP. • Identification, storage, management, handling and disposal of hazardous materials is discussed in Section 14 of the EIS, while hazardous waste streams are identified in Section 20.1 of the EIS. As outlined in Section 22 of the EIS, Management 	Section 14, 20 and 22 of the EIS

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • Characterisation of construction waste streams – Further detail needs to be provided in the future CEMP and OEMP to ensure materials are characterised and segregated to avoid potential cross contamination or mixing of recyclable or reusable wastes from non-recyclable and/or hazardous wastes • Hazardous materials – further detail needs to be provided in the CEMP on how hazardous materials will be identified, managed, handled, and disposed of in a lawful manner to ensure no further harm to the environment or personnel on site. • Targets for reuse and recycling of waste – Further detail needs to be provided in EIS on how the OEMP and CEMP will define how performance targets will be set, monitored and reported on during both the construction and operations phases of the Project. 	<p>of any identified hazardous waste streams would be implemented as part of the CEMP for the Proposal.</p> <ul style="list-style-type: none"> • A number of measures designed to encourage waste recycling and waste minimisation are provided within Section 20.1 of the EIS, for inclusion into the OEMP. 	
Socio-economic			
Mitigation measures	Community consultation is mentioned as a mitigation and improvement measure, however there is no mention of how much weight will be given to community issues that are identified during the process. Providing details of how community concerns will be addressed will allow community consultation to be very effective, as community members will feel appropriately engaged, with clear outcomes for their concerns.	<p>As outlined in Section 20.5.4 of the EIS, social impacts generated by the Proposal are predicted to be minor, and would be managed and minimised further through ongoing community consultation to provide the community with information and opportunities for feedback. The CEMP would include a community information and awareness strategy to put in place key steps for maintaining community engagement during the construction process (refer to Section 22 of the EIS and Section 8 of this RtS).</p> <p>Section 6 of the EIS outlines the community consultation process for the MPW Project and Proposal to date, including objectives and best practice principles. Communication mediums outlined</p>	<p>Sections 20, 22 and Appendix L of the EIS</p> <p>Section 8 of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>include resident letters, community information sessions, a stand-alone project website, 24-hour information hotline and email feedback system which would be continued during the Proposal construction.</p> <p>In terms of outlining how community input would be addressed, formal submissions would be considered and addressed in the context of the Proposal design as part of the statutory planning process (as outlined in Section 20.5.4), while queries regarding project information would be addressed through the telephone and email feedback system, outlined in Appendix L of the EIS.</p> <p>As demonstrated within this RtS, community submissions are collected, read, categorised and analysed according to content and other demographic factors (refer to Section 3 of this RtS). Community submissions are responded to (refer to Section 5 of this RtS) and, if appropriate, can result in further assessment and additional mitigation measures (refer to Section 8 of this RtS).</p>	
Construction impacts	<p>The construction phase impacts on access arrangements, community perception, air quality, noise, visual amenity and traffic/transport would occur for a period of 36 months. These impacts are classed in the EIS as negative short-term. However, with the construction anticipated to be conducted over 36-months it is more appropriately categorised at a minimum as medium-term. The EIS has identified that these impacts will only be temporary, however due to the anticipated duration of the construction phase these impacts should not be considered as negligible.</p>	<p>The assessment of the 36-month construction period as 'short-term' is considered appropriate when assessing the health and amenity of community values in the context of the lifespan of the Project.</p> <p>It is also important to note that this 36-month construction period includes seven separate works periods covering a range of different activities. Many of these activities would result in significantly lower noise, traffic, air and visual impacts than during the peak construction period.</p> <p>Sections 7, 8, 9 and 15 of the EIS address traffic, noise and vibration, air quality and visual impacts respectively generated during Proposal construction. Each of these aspects have prescribed mitigation measures to manage impacts to community</p>	<p>Sections 7, 8, 9 15 and 22 of the EIS.</p> <p>Section 8 of this RtS.</p>

Aspect	Comment	Response	Reference
		health and amenity during construction, in accordance with relevant guidelines and standards (refer to Section 22 of the EIS and Section 7 of this RtS).	
Operational impacts	The EIS has identified that local positive and negative impacts of the site operation are anticipated to be short-term. With the MPW proposed to be operated indefinitely, it is not believed appropriate to class these impacts as anything other than long-term.	As outlined in Table 20-21 of the EIS, there are no short-term operational impacts listed for the Proposal. Short-term exposure to particular emissions including PM ₁₀ and, PM _{2.5} refer to a short-term exposure period, likely to be experienced by someone passing the Proposal site.	Section 20 of the EIS.
	A positive identified is the decrease of road freight on a regional level. This reduction, however must be considered against the large increase in the road freight that would be anticipated around the proposed site within the Liverpool LGA. There is anticipated to be an increase of approximately 2,826 round trip truck movements per day entering/exiting the proposed site. This is a significant increase of heavy vehicles in the area which will have negative impacts on road maintenance and increased road safety risks.	<p>Section 7.4 of the EIS outlines the potential traffic impacts generated by the Proposal to the surrounding environment, including that of the local Liverpool LGA. It has been established within this assessment that the Proposal would generate approximately 1,458 truck trips (2-way) per day, not 2,826 as identified.</p> <p>The Proposal was considered against a “do nothing” option in Section 3 of the EIS. It is established that general conditions associated with freight transit along the M5 Motorway would not be improved by this approach, and that localised traffic impacts would be limited to areas immediately around the site including the Moorebank Avenue/Anzac Road intersection. Section 7.6 of the EIS discusses an upgrade (Moorebank Avenue/Anzac Road) and road network improvements, that would be discussed with Roads and Maritime to reduce the impact of surrounding background traffic growth and the Proposal.</p>	Sections 3 and 7 of the EIS.
	There is potential for positive impacts to local business if an appropriate locally focused procurement policy is put in place for both construction and operation. The procurement policy should	As mentioned in Section 20.5 of the EIS, there is a potential for local businesses to benefit through increased trade generated by the increase in construction workers and operational staff.	Section 20.5 of the EIS

Aspect	Comment	Response	Reference
	<p>place a higher emphasis on local employment and products to incentivise local job creation and economic input.</p>		
Recommendations	<ul style="list-style-type: none"> • The negative socio-economic impacts have been down played, by suggesting that they will only be experienced temporarily. More focus should be given to mitigation measures of these expected negative impacts prior to approval being granted. • It is recommended that a tracking system be developed to ensure all community feedback and complaints are captured, assessed and the appropriate action taken. This can be cover by a Statement of Commitments to demonstrate how all negative impacts to the local community will be mitigated during construction and operation of the Project. • Commitments should be made to employ 25% of the construction and operational workforce from within the Liverpool LGA to ensure that the identified positive socio-economic impacts are realised. • Any assessment of operational workforce should account for future trends and emerging technologies in optimisation and automation of similar facilities to accurately capture life-cycle employment levels of the facility during operation. • The developer should provide a register of preferred suppliers to ensure that procurement of workforce and sub-contractors comes from local businesses to ensure anticipated positive socio-economic impacts are realised in the local area. • As economic conditions are fluid, anticipated employment numbers and greater economic impacts should be reassessed prior to construction approval being granted to 	<ul style="list-style-type: none"> • Negative impacts identified in Section 20.5 of the EIS include changes to access, community perception, air quality, noise, health, visual and traffic. When reviewed in conjunction with mitigation and management measures outlined within Section 22 of the EIS, it is demonstrated that impacts relating to air, noise, traffic, health and visual would be managed to levels that would not result in significant long term environmental impacts, which in turn would minimise socioeconomic impacts. Furthermore, assessments conducted and provided in Appendices M (Traffic), N (Noise and Vibration), O (Air Quality) and P (Human Health) of the EIS indicate that predictive impacts were often based on conservative estimates and worst case scenarios, thereby giving conservative, worst case results from which management measures are designed to mitigate. As per Section 20.5 of the EIS, the Proposal is not anticipated to have a negative impact on surrounding property values or local businesses. • As outlined in Section 20.5 of the EIS, stakeholders and community members will be able to provide feedback through a variety of mediums over the course of the detailed design, construction and operational phases of development, which will be further detailed within the Community Information and Awareness Strategy (sub-plan to the CEMP) (refer to Section 22 of this EIS and Section 8 of this RtS). Formal feedback in the form of submissions from the community, and responses to concerns are outlined in Section 5 of this RtS. The Consultation Outcomes Report (Appendix L of the EIS) outlines the strategy behind developing awareness of the Project within the community and tracking feedback. Key 	<p>Section 20, 22 and Appendix M, N, O, P and T of the EIS</p> <p>Section 8 of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>ensure that an accurate representation of the employment and local socio-economic impacts can be reviewed.</p> <ul style="list-style-type: none"> • A full net economic assessment of the Liverpool LGA should be conducted and provided to ensure that negative impacts like increased road maintenance, increased congestion, decreased air quality can be quantified against social and economic benefits. • A Statement of Commitment should be prepared to detail how the developer is going to mitigate anticipated negative impacts to noise and vibration, air quality, visual amenity and traffic will be carried out. • The developer should investigate the potential for local TAFE and University campuses to conduct employment development training courses to encourage local community members to enrol and improve the personal skills. This could lead to an improved skilled workforce within the local community, which will be able to service the expected employment requirements. 	<p>components of this strategy includes an email feedback system, that commits all complains/queries submitted by the community would be responded to within 48 hours, and a 24-hour free call information line.</p> <ul style="list-style-type: none"> • The workforce selected for the Proposal would seek to utilise labour resources where most effective. As outlined in Section 20.5, employment opportunities would be generated during both construction and operation of the Proposal, and it is envisaged that many positions would be filled by residents from the local and regional area. • Section 20.5 (Table 20-21) estimates of an operational workforce of approximately 1,265. As stated, estimate would be made up mostly of warehouse workers, who would not be replaced with automated technology within the foreseeable future. • As stated, procurement of workforce and subcontractors would be determined by a range of factors, including the skill set and capabilities of those selected. Proximity to the Proposal site would not be used as a standalone procurement measure, however materials would be sourced where possible from local vendors where possible to reduce travelling distances and associated environmental impacts. • As discussed in Section 20.5, the employment and local socioeconomic demographics used to determine the existing conditions of the Liverpool LGA were derived from both the Liverpool City Council Website and data obtain from the Australian Bureau of Statistics. Anticipated employment numbers are considered to be relatively rigid for the construction and initial operational period, as the scope of works and workers are relatively accurately defined. It is 	

Aspect	Comment	Response	Reference
		<p>therefore considered unpractical to carry out another assessment based on largely the same data, as the outcomes would largely be the same.</p> <ul style="list-style-type: none"> • This is considered out of the scope of the Proposal as the purpose of the EIS is to identify, assess and mitigate potential environmental impacts generated as a result of the Proposal. This includes a range of specialist studies that consider impacts generated to surrounding sensitive receivers and cumulative impacts when assessed in conjunction to surrounding developments. • A range of REMMs are prescribed for the MPW Concept Approval and addressed for noise, air quality, visual amenity and traffic. Specialist studies for each of these aspects is provided in Appendix N, O, T and M respectively, with mitigation measures listed in Section 22 of the EIS. • The Proposal provides a number of potential employment benefits for the local community throughout both the construction and operation phases. As stated, procurement of workforce and subcontractors would be determined by a range of factors, including the skill set and capabilities of those selected. While providing employment development training within the local area may improve the skilled local workforce as a whole, it is considered out of the subject scope for this EIS. 	

4.7 Campbelltown City Council

A formal submission comprising a letter (dated 25 November 2016) was received from Campbelltown City Council. Several comments were provided, as summarised and responded to below.

Aspect	Comment	Response	Reference
Variation to concept approval site/land use layout			
Consistency to site layout	Council raises issue with the significant changes made to the site's internal layout when comparison is made to the concept approval layout. While being cognisant of the concept approval's 'high level' detail, there are several matters which in Campbelltown Council's opinion require further explanation/justification as their deviation from the concept is substantial.	<p>Campbelltown City Council appear to be mistakenly comparing the MPW Project as presented in the preliminary MPW Concept EIS with the current proposed layout. The proposed layout was altered during the response to submission for the MPW Concept EIS in response to submissions received and further development of the design. The layout presented in the EIS has been developed from the approved layout as presented in the MPW Concept SRtS. A discussion of the development of the concept design through the approvals process has been provided below.</p> <p>The Concept Approval for the MPW site, which sought approval both for the concept and the Early Works (Stage 1) of the MPW Project included the following documentation (all publicly available via the Department of Planning's Major Projects Website: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=5066):</p> <ul style="list-style-type: none"> • The Moorebank Intermodal Terminal Project EIS (MPW Concept EIS) (Parsons Brinkerhoff, 2014) • The Moorebank Intermodal Response to Submissions Report (MPW Concept RtS Report) (Parsons Brinkerhoff, 2015) • The Moorebank Intermodal Terminal Supplementary Response to Submissions Report (MPW Concept SRtS Report) (Parsons Brinkerhoff, 2015) <p>The MPW Concept EIS (PB, 2014) provided conceptual IMT layouts, rail access options and indicative development phases, selected based on a Multi-Criteria Analysis (MCA) of layout options (refer to Section 7 of the MPW Concept EIS). Two preferred technical options were selected which retained layout features retained in the final design adopted for the site, including the facilitation of both IMEX and interstate freight processing, and the establishment</p>	<p>MPW Concept EIS</p> <p>Figure ES. 1 of the MPW Concept SRtS</p> <p>MPW Concept Modification Report</p> <p>MPW Concept Modification RtS</p> <p>Section 6 of this RtS</p>
	Given the magnitude of the changes, the proposal as submitted is almost to the point that it is not generally in accordance the relevant concept approval (as required by Condition 4) and will likely cause significant changes to the operation of the overall development not considered or addressed under the concept approval.		
	This includes the interrelationship of the subject development with the		

Aspect	Comment	Response	Reference
	<p>operation of the adjoining SIMTA Terminal development. It is therefore considered that the proposed revised layout of the site should be submitted as a modification to the original concept application in addition to simply as an incidental Stage DA, and include an assessment of implications to the holistic operation of the MIC and SIMTA developments, such as an assessment of traffic implications and connectivity between the adjacent terminal sites, and measures to maintain or improve traffic movements along Moorebank Avenue.</p>	<p>of a conservation area along the western site boundary. Three indicative site layouts were presented in the MPW Concept EIS according to rail access, to allow design flexibility.</p> <p>The revised operational concept MPW layout, as provided in the MPW Concept SRtS (refer to Figure ES. 1), includes a southern rail access tie-in, interstate and IMEX terminals, and rail sidings along the eastern site boundary (parallel to Moorebank Avenue), warehousing, truck loading bays, internal access roads and detention basins along the midsection of the MPW site, and a conservation area established along the western site boundary. The southern rail access is advantageous as the rail spur can be shared between the MPW and neighbouring MPE sites, and also achieves the most effective noise and vibration outcomes, as it places the loudest noise sources furthest away from sensitive noise receivers. Concept Approval for these works was gained on 3 June 2016 (SSD 5066).</p> <p>Subsequently, an application was made under Section 96 (2) of the EP&A Act to modify the MPW Concept Approval (SSD 5066 MOD 1) with further design investigations undertaken following Concept Approval. The MPW Concept Modification Report was placed on exhibition to the public between 7 July 2016 and 22 August 2016. A Response to Submissions Report for the MPW Concept Modification (MPW Concept Modification RtS SSD 5066 MOD 1 – See Department of Planning Major Projects Website) was prepared to provide further design detail in response to comments received on the SSD 5066 MOD 1 Report and reflect further design progression. A direct comparison of the revised operational site layout from the MPW Concept EIS with the Proposal layout for the EIS (SSD 16-7709) is provided in Section 6 of this report. The Proposal internal site layout for operation is considered in general accordance with the Concept Approval (SSD 5066).</p> <p>Consideration of operational impacts of the Proposal and the interactions with neighbouring developments (i.e. the MPE Project) is assessed and mitigation measures are recommended within the cumulative impact assessments undertaken for the EIS (refer Section 19 of the EIS). Further details regarding traffic impacts on Moorebank Avenue during site operations are provided below.</p>	

Aspect	Comment	Response	Reference
Rail siding location changes	The rail sidings are in quite separate location(s) within the site. Council assumes this decision has been made to better integrate the two intermodal sites, providing for a central rail spine throughout the intermodal precinct. However, this change creates some noteworthy issues for Campbelltown City, especially in light of concept approval conditions and discussions held with the proponent over time.	Refer to response above. The rail sidings for the Proposal are located along the eastern boundary of the MPW site, as presented in the revised MPW site layout figure in accordance with the MPW Concept Approval (SSD 5066) (refer to Figure ES. 1 of the MPW Concept SRtS), available via the following link: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=5066	Figure ES. 1 of the MPW Concept SRtS
Internal / external truck access movements and impacts to Moorebank Avenue	The largest impact on the shifting of the rail siding is its reduction in truck access points along Moorebank Avenue. The Stage 2 proposal has one intersection with Moorebank Avenue while the concept approval had 3 for the same length of frontage. The implications of this are that where the concept approval allowed multiple trucks to enter Moorebank Avenue on synchronised signal phases, the current proposal only allows trucks to enter at a single point This is likely to have significant impact on the performance of all traffic facilities on Moorebank Avenue as in order to facilitate efficient egress of trucks into Moorebank Avenue from the terminal, Moorebank Avenue and Anzac Road priority will significantly change.	As outlined above, the location of rail sidings and access to/from the site under the Proposal is in general accordance with the Concept Approval (SSD 5066 – refer to figure ES. 1 of the MPW Concept Supplementary Response to Submissions Report). This confirms the southern rail access into the Moorebank terminal as the preferred option. By virtue of this option being selected, multiple access points to/from the Proposal site during operation is not possible. The EIS included assessment of an upgraded intersection on Moorebank Avenue, which was designed to provided sufficient access to the Proposal site whilst maintaining intersection performance. Section 7 and Appendix M of the EIS includes an assessment of operational traffic impacts generated by the Proposal along Moorebank Avenue (including the Moorebank Avenue / Anzac Road intersection) and proposes mitigation measures. The assessment concluded that the Proposal would result in only marginal traffic impact to the surrounding road network in the presence of mitigation and management measures.	Figure ES. 1 of the MPW Concept SRtS Section 7 and Appendix M of the EIS

Aspect	Comment	Response	Reference
	<p>Should the 3 points remain as originally approved, the entry of trucks can be staggered along Moorebank Avenue, rather than being focussed on what is already a relatively busy intersection.</p> <p>The proposed weaving motion for heavy vehicles going from the Stage 2 site to the Moorebank Precinct East site is considered likely to have a significant and potentially unreasonable impact on all traffic using Moorebank Avenue.</p>		
<p>Truck right-turn movements from terminal onto Moorebank Avenue heading south</p>	<p>The proposed intersection design with Moorebank Avenue/Anzac Road appears to be inconsistent with the concept approval (SSD 5066) for the facility, refer to Schedule 4 -Condition E 12:</p> <p><i>All future Development Applications shall demonstrate how the main access to the site has been designed to prevent heavy vehicles associated with the facility from using Moorebank Avenue South, and should be accompanied by detailed engineering drawing(s).</i></p> <p>Appendix 'G' to the current application clearly demonstrates that the intersection has been made viable for</p>	<p>As outlined in Section 7.5 of the EIS, alterations to the existing signalised intersection of Moorebank Avenue / Anzac Road would be required to facilitate access to the Proposal site. This design is consistent with the revised Project Layout Plan as presented in the MPW Concept SRtS (refer to figure ES 1).</p> <p>It is considered that condition E12 does not prohibit vehicles from turning right out of the Proposal site egress, but rather, requires measures to prevent heavy vehicles from leaving the Proposal site and travelling southbound along Moorebank Avenue (south of the Proposed MPE site access) to access Cambridge Avenue during operation.</p> <p>In order to optimise operational efficiencies between the MPW and MPE precincts (when the MPE Stage 1 site is operational prior to operation of MPE Stage 2) it is proposed to allow the transfer of operational vehicles between the MPW and MPE sites for the purposes of container handling between the IMT's and warehouses on each site (refer to Section 6.1 of the MPW Concept Modification RtS). Notwithstanding this, under the Proposal, operational heavy vehicles would be prohibited from travelling further south on Moorebank Avenue, south of the southern extent of the MPE site and, in particular, from using Cambridge Avenue. An assessment of operational traffic impacts as a result of this allowance is provided in Section 7.1 of the MPW Concept Modification RtS, indicating that the Level of Service (LoS) for the</p>	<p>Figure ES. 1 of the MPW Concept SRtS</p> <p>Section 7 and Appendix M of the EIS</p>

Aspect	Comment	Response	Reference
	<p>trucks (a-doubles maximum) to turn right onto Moorebank Avenue and head south, which is not considered to be compatible with the concept approval.</p> <p>Even if the proponent suggests that the trucks would be heading in that direction to access Precinct East only and not continuing on to utilise the Cambridge Avenue Georges River crossing, the fact remains that the proposal is not consistent with the condition and there are no safe-guards proposed, aside from 'education of drivers' accessing the terminal. It could be argued that if the PAC considered driver education to be sufficient, that the wording of Condition E 12 would have been different.</p> <p>Heavy vehicles associated with the development utilising the existing Cambridge Avenue crossing of the Georges River has always been Campbelltown Council's principal issue of concern in relation to the intermodal terminal(s) being located on Moorebank Avenue. Emphasis is placed on 'the existing' crossing.</p>	<p>Moorebank Avenue / Anzac Road intersection would not be adversely impacted by these movements.</p> <p>Restriction of heavy trucks using the MPW site from travelling further south than the MPE site entrance would be managed under the POTMP, prepared as an appendix to the Operational Traffic and Transport Impact Assessment (refer to Appendix M of the EIS).</p>	
Methodology	Operational traffic spread has been sourced from Eastern Creek Industrial	A detailed description of the methods and background data used to calculate traffic generation for the Moorebnk Precinct is included in Technical Paper 1 (Traffic, transport and access) of	MPW Concept EIS

Aspect	Comment	Response	Reference
	<p>area. As this is not a 24 hour intermodal site, Council is unsure how this is representative of the traffic patterns to be expected at Moorebank.</p>	<p>the MPW Concept EIS. To ensure a consistent approach that aligns with previously approved projects, the findings of the MPW Concept EIS have been used as a basis for the EIS.</p> <p>Traffic profiles sourced from Eastern Creek Industrial area (a similar warehousing operation) were utilised as part of a broader assessment to calculate staff movements in accordance with the <i>RMS Guide to Traffic Generating Developments, technical direction TDT 2013/04 Traffic Surveys (May 2013)</i>.</p>	<p>Section 7 and Appendix M of the EIS</p>
<p>Traffic counts</p>	<p>Traffic volumes on Cambridge Ave in the AM and PM peak hours vary significantly from those provided for the Glenfield Waste proposal referenced earlier. This variation is in the order of 30% lower than the Glenfield Waste values in the peak direction. Council has traffic counts on Cambridge Avenue from 2011 which have similar volumes to those provided by Glenfield Waste. This discrepancy needs to be resolved.</p>	<p>Traffic count surveys for the operational traffic impact assessment were sourced from Roads and Maritime's wider Liverpool Moorebank Arterial Road Investigations (LMARI) traffic model developed in 2015. The traffic numbers have been supplemented with a 2014 traffic survey carried out for the MPE Stage 1 Proposal.</p>	<p>Section 7 and Appendix M of the EIS</p>
<p>Operational traffic</p>	<p>Operational phase traffic -should heavy vehicle movements towards the Georges River crossing on Cambridge Avenue be restricted pursuant to Condition E12, the proponent should be required to demonstrate how existing heavy vehicle movements would continue to be allowed? According to the Glenfield Waste proposal traffic assessment, there are 47 heavy vehicles using the causeway</p>	<p>As outlined in Section 4 of the EIS, heavy vehicles exiting the site would not be permitted to use Cambridge Avenue. The proposal does not propose to manage existing heavy vehicle movements which are unrelated to the Proposal on Cambridge Avenue.</p> <p>Operational traffic impact numbers for the EIS were sourced from Roads and Maritime's wider Liverpool Moorebank Arterial Road Investigations (LMARI) traffic model developed in 2015. The traffic numbers have been supplemented with a 2014 traffic survey carried out to support the traffic impact assessment for the MPE Stage 1 Proposal.</p>	<p>Section 4 and 7, and Appendix M of the EIS</p>

Aspect	Comment	Response	Reference
	<p>in the AM peak hour and 44 in the PM peak hour.</p> <p>The SIMTA proposal indicates that there are 630 daily heavy vehicle movements on Cambridge Avenue both before and after the proposal (2019).</p>		
Connections	<p>Revised consideration of the possible connection to the M31 and M7 via Glenfield needs to be included and discussed in consultation with RMS who are currently considering options for this route. There may also be opportunities for a joint bridge with the rail corridor which could deliver heavy vehicles to Glenfield Road via the Glenfield Waste Facility</p>	<p>During operation of the Proposal, heavy vehicles would not be permitted to travel on Cambridge Avenue. As detailed in Section 5 of the OTTIA, 3% of light vehicle trips to and from the Proposal site during operation would be via Cambridge Avenue, which would result in a 0.4% increase in traffic on Cambridge Avenue, when compared to background traffic levels. Roundabout operations on Cambridge Avenue are predicted to operate at satisfactory levels (LoS A/B). As such, road upgrades are not considered to be warranted.</p> <p>The possibility for a connection to the M31 and M7 via Glenfield is outside of the scope of the EIS.</p>	Section 7 and Appendix M of the EIS
RMS roadworks	<p>RMS is currently proposing major roadworks at Moorebank Avenue to address the safety and capacity issues associated with the major weaving that occurs here. These works need to be taken into account by the current application. Additional opportunities would appear to be available at Moorebank to create a vehicle and/or heavy vehicle underpass of the M5 to help deliver eastbound traffic and reduce congestion.</p>	<p>SIMTA has been consulting with Roads and Maritime throughout the development of the Proposal. There are currently no active Roads and Maritime projects relating to major roadworks within Moorebank Avenue.</p> <p>The traffic impact assessment concluded that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of mitigation and management measures. However, the assessment highlighted that there are several regional intersections requiring upgrade in order to cater for the projected background traffic growth of the local road network, with or without the Proposal. The assessment recommends that Roads and Maritime undertake intersection upgrades at the following locations in order to improve the operation of the local road network:</p> <ul style="list-style-type: none"> • M5 Motorway / Moorebank Avenue intersection 	Section 7 and Appendix M of the EIS

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • M5 Motorway / Hume Highway intersection • Moorebank Avenue / Newbridge Road intersection • Moorebank Avenue / Heathcote Road intersection • M5 Motorway / Heathcote Road intersection <p>Opportunities to create a vehicle and/or heavy vehicle underpass of the M5 are outside of the scope of this Proposal.</p>	
Cambridge Avenue	<p>The proposal has assessed the intersections along Cambridge Avenue to determine impacts of the development. As with the Glenfield Waste proposal, the issue is not the intersections, but the number of heavy vehicles trying to pass on the causeway itself. Any increase could have a negative impact on safety. This has not been addressed by the current application and is of particular importance to Council, noting the intersection design in Appendix 'G'.</p>	<p>As outlined in Section 7 of the EIS, during operation heavy vehicles exiting the site would not be permitted to use Cambridge Avenue. The only trucks which would be travelling south from the Proposal would be those that are accessing the MPE Stage 1 site and for the disposal of asbestos to the Glenfield Waste Facility via Cambridge Avenue during construction. The disposal of asbestos to the Glenfield Waste Facility via Cambridge Avenue is most likely to occur during the early works phase of the MPW Project and is not likely to form part of this Proposal. No other construction related heavy vehicles will be permitted to use Cambridge Avenue. Traffic impacts associated with the MPE site would be managed through relevant conditions of approval for each stage of that Proposal.</p>	<p>Section 7 and Appendix M of the EIS</p>
Operational traffic	<p>During the Operational phase of the facility, it is assumed that only 3% of employee traffic generation accesses the site via Cambridge Avenue. This would appear to be very low.</p>	<p>For the purpose of the study, future traffic growth and modelling data was sourced from Roads and Maritime's wider Liverpool Moorebank Arterial Road Investigations (LMARI) model built in AIMSUN modelling software version 8.0.9 (R35843). The LMARI AIMSUN traffic model has been developed, calibrated and validated by Jacobs and subsequently updated by GTA consultants (GTA).</p> <p>During operation of the Proposal, heavy vehicles would not be permitted to travel on Cambridge Avenue. As detailed in Section 5 of the OTTIA, 3% of light vehicle trips to and from</p>	<p>Section 7 and Appendix M of the EIS</p>

Aspect	Comment	Response	Reference
		the Proposal site during operation would be via Cambridge Avenue, which would result in a 0.4% increase in traffic on Cambridge Avenue, when compared to background traffic levels.	
Noise wall	<p>A continuous noise wall is proposed along the river side of the development. The wall appears to be located above the 1 %AEP flood level but given the major status of the Georges River, will need to check its location relative to flood levels up to the PMF will be necessary.</p> <p>Consideration of how this wall interacts with flood flows may be required if it is below the PMF.</p>	<p>The stormwater and flooding assessment presented in Section 12 and Appendix R of the EIS included consideration of noise barriers.</p> <p>Noise barriers along the western length of the Proposal internal road would be configured to accommodate overland flows from the eastern upstream areas of the Proposal site to continue westward into the proposed OSD storages and the Georges River. To do so, a continuous gap of 0.3 m minimum height would be established between finished ground surface levels and the underside of noise barriers.</p> <p>PMF levels, including consideration of their interactions with noise barriers were considered as part of the overall flooding and stormwater strategy for the Proposal.</p>	Section 12 and Appendix R of the EIS
Internal road	<p>Finally, and significantly, there would appear to be an opportunity to reroute the through traffic (i.e. reroute Moorebank Avenue) via the riparian corridor, along the periphery of the development area, which (when the area is fully developed) would allow a better separation of traffic.</p>	<p>The proposed layout including the location of key road alignments was investigated during the development of the MPW Concept EIS. This evaluation followed a six step process that included multi-criteria analysis (MCA) to rank and shortlist options. Various design layouts and functional options were developed for the Project site. The criteria included three broad categories of environmental / community performance, technical performance and economic performance. The preferred layout was selected as it received the highest rating on balance across all criteria.</p> <p>The preferred layout that forms the basis for this Proposal is presented in the MPW Concept SRtS (Figure ES. 1).</p>	Figure ES. 1 of the MPW Concept SRtS

5 RESPONSE TO COMMUNITY SUBMISSIONS

This section provides a summary of the submissions raised by the public and interest groups. Submissions have been grouped and responded to by environmental aspect, within Table 5-1. A summary of the key issues raised is provided in Section 3 of this RtS.

Table 5-1 should be read in conjunction with the source table provided in Appendix A.

Table 5-1 Response to community submissions

Issue	Summary	Comments	Reference
Traffic			
Congestion / Capacity	Concerns that a holding yard for 60 heavy vehicles is not sufficient	As outlined in Section 4.4 of the EIS, The IMT and warehousing would have adequate capacity for holding the requisite operational trucks. The proposed holding yard north of the site entrance is an additional area that would be used to accommodate traffic arriving unexpectedly, and would reduce potential congestion impacts of the IMT on Moorebank Avenue.	Section 4 and Appendix M of the EIS.
	Concerns about traffic increases from the Proposal	The Operational Traffic and Transport Impact Assessment (OTTIA - Section 7 and Appendix M of the EIS) concluded that the Proposal (and cumulative scenario including the Proposal) would result in minor traffic impacts to the surrounding road network taking into consideration proposed mitigation and management measures outlined in Section 22 of the EIS. The assessment identifies that the Proposal would result in generally a less than 5% increase in traffic at key intersections, with the exception of the M5 Motorway/Moorebank Avenue in AM and PM peak in opening year of operations (2019) (refer to Table 7-24 of the EIS for a full summary of predicted intersection performance during site operations). Analysis shows that, with the exception of the Moorebank Avenue/Anzac Road intersection, all of the key intersections within the study area would require upgrades to manage existing and projected background traffic volumes before the addition of the traffic generated by the Proposal due to anticipated population growth in the area. The Proposal would not generate any increases to heavy vehicles that would not otherwise be on the road (without the Proposal). The key function of the Proposal to transport freight from	Section 7 and Appendix M of the EIS.
	Concerns about the increase in heavy vehicles		
	Trucks moved from Botany to Moorebank		
	Concern that the Proposal would add to existing traffic congestion on roads in the vicinity of the project. Specifically, M5, M7, Newbridge Rd, Heathcote Road and the Hume Highway		

Issue	Summary	Comments	Reference
	<p>Proposal would add to increasing road congestion created by upcoming apartment developments and from general population growth in the area</p>	<p>Port Botany to Moorebank by rail, instead of by road, would allow heavy trucks to have their source and destination at Moorebank, reduce the distances heavy vehicles would be required to travel and would provide effective management control.</p>	
	<p>Concerns that support vehicles and trucks from the Proposal would create congestion on the surrounding road network</p>	<p>Subject to negotiations with Roads and Maritime, as a part of the Proposal, an upgrade of the Moorebank Avenue/Anzac Road intersection is proposed. The upgrade will provide a new access point to the Proposal site and will cater for background traffic growth from opening year to 10 years beyond opening year.</p>	
	<p>Concerns that vehicles travelling to and from nearby industrial areas would result in congestion on feeder roads</p>	<p>The OTTIA highlighted that there are several other regional intersections requiring upgrade in order to cater for the projected background traffic growth of the local road network. The OTTIA recommends that Roads and Maritime undertake intersection upgrades at the following locations in order to improve the operation of the local road network:</p> <ul style="list-style-type: none"> • M5 Motorway / Moorebank Avenue intersection • M5 Motorway / Hume Highway intersection • Moorebank Avenue / Newbridge Road intersection 	
	<p>Concerns that the Proposal would result in congestion in nearby suburbs including Moorebank, Chipping Norton, Casula, Liverpool and the Prestons</p>	<ul style="list-style-type: none"> • Moorebank Avenue / Heathcote Road intersection • M5 Motorway / Heathcote Road intersection <p>Performance of the road network, including intersections will continue to be monitored and modelled in accordance with the existing conditions of the Concept Approval (SSD 5066).</p>	
	<p>Concern that surrounding intersections would not be able to accommodate traffic movements from trucks generated by the Proposal</p>		
	<p>Impacts of additional traffic movements on the M5 and M7 increasing congestion for vehicles</p>	<p>The impact of traffic generated by the Proposal was assessed for the M5 Motorway (refer to Appendix M of the EIS).</p>	<p>Section 7 and Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
	travelling to and from the greater south west and western regions	<p>As outlined above, by transporting freight from Port Botany to Moorebank by rail, the number of heavy vehicles required to process freight from Port Botany would be reduced, resulting in regional traffic improvements with a mode shift from truck to rail transportation (refer to Section 5.3 of the OTTIA).</p> <p>One train can transport up to 91 TEU from Port Botany to the intermodal site, whereas one truck would likely only be able to transport on average, 2 TEU per trip. The Proposal would not add trucks to the road, but would rather take trucks already on the road and divert them to Moorebank for those arriving from east of the M5, and reduce the distance trucks arriving from the west would travel to collect freight by preventing them from continuing to Port Botany.</p> <p>Intersection assessments (SIDRA) were undertaken along the M5 Motorway to determine the extent of local traffic generation and associated impacts to the level of service of these intersections as a result of the Proposal. Three intersections were assessed, namely:</p> <ul style="list-style-type: none"> • I-2 M5 Motorway / Moorebank Avenue • I-3 M5 Motorway / Hume Highway • I-6 M5 Motorway / Heathcote Road <p>The assessment identifies that the Proposal would result in generally a less than 5% increase in traffic at these intersections, with the exception of the M5 Motorway/Moorebank Avenue in AM and PM peak in 2019 (refer to Table 7-24 of the EIS for a full summary of predicted intersection performance during site operations). The assessment notes that, as a result of background traffic growth (without the Proposal), the following impacts occur:</p> <ul style="list-style-type: none"> • I-3 and I-6 intersections level of service would fail (i.e. level of service E and below in AM peak) in 2019 • These three intersections (I-2, I-3 and I-6) would all fail (i.e. level of service F in AM peak) in 2029. <p>The OTTIA (refer to Appendix M of the EIS) outlines a number of network solutions which could be undertaken by Roads and Maritime Services to improve intersection performance and movement of traffic on the M5 Motorway.</p>	

Issue	Summary	Comments	Reference
		<p>The M7 Motorway was identified within the regional study area for the OTTIA (refer to Appendix M of the EIS). In consultation with Roads and Maritime Services, this roadway was not considered to have the most potential to be impacted by the Proposal and therefore detailed intersections assessments were not considered necessary.</p> <p>Overall, the Proposal would result in localised impacts on traffic generation, which could be mitigated.</p>	
	<p>Concerns that construction of the Proposal is commencing prior to road upgrade projects on the surrounding roads. The Proposal relies on these to reduce congestion</p>	<p>A revised Construction Traffic Impact Assessment (CTIA) has been prepared for this RtS (refer to Appendix C of this RtS). This assessment modelled changes to the traffic network performance as a result of Amended Proposal construction during peak construction traffic scenarios (both for the Amended Proposal in isolation and cumulatively with the MPE Project).</p> <p>As outlined in Section 5 of the revised CTIA, a Level of Service (LoS) B, C or D, representing good to satisfactory operating conditions, would be maintained at key intersections of the M5 Motorway / Moorebank Avenue and Moorebank Avenue / Anzac Road during the AM and PM peak hours for both construction scenarios assessed (refer to Appendix C of this RtS). A PCTMP has been prepared to outline traffic management measures that would be adopted, and further considered as part of the preparation and implementation of the CEMP and CTMP for the construction of the Amended Proposal.</p> <p>Temporary upgrades would be undertaken to key roads during construction, however upgrades would not be required until operation of the Amended Proposal.</p>	<p>Appendix C of this RtS</p>
	<p>Concern that the Proposal would shift larger container trucks into a higher volume of smaller trucks increasing congestion</p>	<p>The OTTIA prepared for the Proposal (refer to Appendix M of the EIS) presents a number of different heavy vehicle types that would be utilised for the transfer of containers, both within the Proposal site and externally on the surrounding road network. The mix of vehicles is as follows:</p> <ul style="list-style-type: none"> • IMT – 20% B-double, 80% Semi-trailer • Warehouse – 5% B-double, 59% Semi-trailer, 36% ridged. <p>In total, there would be approximately 1,458 heavy vehicle movements per day (2- way round trips). The traffic generated by the Proposal would be managed through a mix of an upgrade to</p>	<p>Section 7 and Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>the Anzac Road and Moorebank Avenue intersection (Proposed main site entrance), wider local road network improvements (undertaken by Roads and Maritime Services) and operational procedures to be included in an Operational Traffic Management Plan (based on the Preliminary Operational Traffic Management Plan provided in Appendix M of the EIS).</p>	
	<p>The project only has one road frontage resulting in more congestion at the Northern and Southern intersections on Moorebank Avenue</p>	<p>The Proposal has a primary frontage to Moorebank Avenue and a secondary frontage to Bapaume Road (in the northern part of the Proposal site) (refer to Section 4 of the EIS). The main entrance to the Proposal site, during operation, would be provided through an upgrade of the Moorebank Avenue and Anzac Road intersection. This proposed intersection would be used for vehicles entering and exiting the Proposal site. No access to the Proposal site, once the Proposal is operational, is provided from the south. The proposed site entrance has been designed to minimise congestion and facilitate a smooth transition of vehicles to/from Moorebank Avenue to/from the Proposal site. The development of this proposed intersection, road network improvements (undertaken by Roads and Maritime) and operational procedures would minimise congestion resulting from traffic generated by the Proposal and anticipated background traffic growth.</p>	<p>Section 4 and Appendix M of the EIS.</p>
	<p>Vehicle breakdowns on minor and major roads in the locality impacting traffic flow</p>	<p>Appendix M of the EIS includes a POTMP that has been prepared for the Proposal to manage traffic in the context of the surrounding road network. As identified in the POTMP, 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:</p>	<p>Section 7 and Appendix M of the EIS.</p>
	<p>Additional accidents from increased truck movements resulting in more congestion in locality</p>	<ul style="list-style-type: none"> • Measures utilising short-range radios, 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 • Information dissemination system using Variable Message Signs (VMS) will be in place to exchange information with truck drivers on live traffic conditions. <p>More specifically, the Proposal includes several holding areas adjacent to the IMT and warehousing areas to provide the opportunity for the storage of trucks in the instance of a disruption to the surrounding road network. An emergency holding area is also provided in the</p>	

Issue	Summary	Comments	Reference
		<p>northern part of the Proposal site to hold trucks in the instance of a significant traffic accident or disruption on the M5 Motorway.</p> <p>Section 7 of the EIS and Appendix M of the EIS (OTTIA) has assessed the crash trends on a network level which includes the M5 Motorway (and its three interchanges with Moorebank Avenue, Hume Highway and Heathcote Road), Moorebank Avenue (north and south of M5 Motorway), Anzac Road, Cambridge Avenue, Moorebank Avenue/Newbridge Road intersection, and Moorebank Avenue/Heathcote Road intersection. It is noted that the traffic generated by the Proposal has the potential to contribute to accidents and resultant congestion on Moorebank Avenue and the immediately surrounding road network without the implementation of mitigation measures. The design and operation of the proposed intersection upgrades, site access provisions and procedures within the POTMP would be implemented to considerably reduce the potential for traffic accident impacts.</p>	
	<p>Congestion from the movement of fill to site</p>	<p>The revised CTIA provides an assessment of potential traffic impacts associated with construction of the Amended Proposal (refer to Appendix C of this RtS). This included an assessment of vehicle movements relating to the placement of fill on site, which would be undertaken during Works Period C (refer to Section 4.3 of the EIS). The analysis of worst case scenarios which include Works Period C found that a Level of Service (LoS) B, C or D, representing good to satisfactory operating conditions, would be maintained at key intersections of the M5 Motorway / Moorebank Avenue and Moorebank Avenue / Anzac Road during the AM and PM peak hours for worst-case construction scenarios (refer to Appendix C of this RtS).</p> <p>A PCTMP (included in Appendix M of the EIS) has also been prepared to outline the measures that would be adopted, and further considered as part of the preparation and implementation of the CEMP and CTMP for construction of the Amended Proposal. The implementation of this CTMP would provide appropriate strategies to reduce the risk of traffic congestion, and respond to incidents effectively to minimise the contribution of an accident to traffic congestion.</p>	<p>Section 4.3, 7 and Appendix M of the EIS.</p> <p>Appendix C of this RtS</p>
<p>Assessment</p>	<p>How has the reduction in truck movements on the M5 been calculated? The same number of</p>	<p>SIMTA acknowledges that truck movements from the Proposal are not new trips. Without the Proposal (and greater MPW Project), these movements would be associated with trips taken to and from Port Botany and, therefore, would already be on the main road network (and</p>	<p>Section 7 and Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
	vehicles will still be required to deliver goods from the Proposal.	<p>passing Moorebank Avenue on the M5 Motorway). Overall, the Proposal is predicted to result in reductions in vehicle kilometres travelled (VKT) and would provide a number of benefits including:</p> <ul style="list-style-type: none"> • Transfer of road haulage between Port Botany and Western Sydney to rail freight for redistribution thereby helping to reduce traffic congestion and providing speed benefits for the Sydney road network • Easing the Port Botany bottleneck to enable the Port to cope with future growth and provide largescale freight capacity • Reductions in articulated truck volumes through the Sydney CBD and inner city suburbs, on the M4 Motorway and the M5 Motorway east of the Moorebank Avenue interchange. The changes in articulated truck volumes on the regional Sydney road network would be reductions in heavy vehicle movements between Port Botany and Moorebank, thereby relieving the regional Sydney road network of articulated vehicular traffic. <p>The traffic assessment identified that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of mitigation and management measures.</p>	
	<p>Traffic modelling has not been based on reliable data</p> <hr/> <p>Data used for the traffic modelling is outdated</p>	<p>The Traffic Impact Assessment provided in Section 7 and Appendix M of the EIS has been undertaken in accordance with the SEAR's (SSD 7709) issued for the Proposal. Further, the modelling has been undertaken based on the following:</p> <ul style="list-style-type: none"> • Previous modelling and reporting undertaken for the Moorebank Precinct including for the MPW Concept Approval (SSD 5066), MPE Concept Approval (MP 10_0193) and MPE Stage 1 Approval (SSD 14-6766) all of which have been previously reviewed and approved by the Department of Planning & Environment (DP&E). • The Roads and Maritime LMARI model which has been prepared for the Liverpool Local Government Area. Numerous meetings, emails and telephone conversations with Roads and Maritime have been undertaken to ensure that the modelling undertaken for the Proposal utilises the appropriate AIMSUN (LMARI) model and assessment approach. 	Section 7 and Appendix M of the EIS.

Issue	Summary	Comments	Reference
		<p>The traffic modelling for the Proposal has also been prepared in consideration of the Moorebank Precinct model, which provides an assessment of the potential traffic impacts of the Moorebank Precinct (MPW and MPE Projects) on the local road network. This ensures that, although the Moorebank Precinct model is part of a separate process, both models are prepared to ensure consistency of impacts thereby improving their accuracy and validity.</p> <p>The basis for the modelling is therefore considered current and appropriate for the assessment of the potential traffic impacts associated with the Proposal.</p>	
	<p>The traffic accident study area has changed since the Concept Plan EIS and does not demonstrate how the project may affect nearby accident blackspots e.g. the Hume Highway</p>	<p>The traffic study area comprises the wider traffic study area (and the core traffic study area). These areas are derived from investigations based on previous modelling undertaken for the MPW Concept Approval (SSD 5066) and the Roads and Maritime LMARI traffic model. The core traffic study area selected for the Proposal includes eight key intersections, which have the most potential to be impacted by the Proposal and have been confirmed through consultation with Roads and Maritime. The study area identified, differs from that presented within the MPW Concept Approval as it is intended to assess impacts associated with this specific stage of the Moorebank Precinct.</p> <p>The OTTIA (Appendix M of the EIS) has assessed the crash trends on a network level which includes M5 Motorway (and its three interchanges with Moorebank Avenue, Hume Highway and Heathcote Road), Moorebank Avenue (north and south of M5 Motorway), Anzac Road, Cambridge Avenue, Moorebank Avenue/Newbridge Road intersection, and Moorebank Avenue/Heathcote Road intersection.</p> <p>It is noted that the Proposal, as a result of vehicle generation, has the potential to impact on crashes and accidents on Moorebank Avenue and the immediately surrounding road network. Notwithstanding this, the design and operation of the proposed intersection and site access points and procedures in the POTMP would considerably reduce this potential for traffic accidents.</p> <p>A black spot assessment was not conducted as it is not a requirement of SEARs or REMMs for MPW Concept Approval. The criteria for a blackspot assessment is 3 casualty crashes over the most recent 5-year period. The high-level assessment conducted in the OTTIA indicates</p>	<p>Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
		that current crash data does not trigger this criterion i.e. 2 fatalities over a 5-year period from 2010 to 2015 and at two separate different locations.	
	Traffic model uses 2010 traffic counts for the M5 Bridge which is not representative of present conditions and does not account for the M5 widening	As discussed in the OTTIA (Appendix M of the EIS), Traffic count data used for the traffic component of the EIS assessment was based on 2015 counts extracted from the Roads and Maritime's wider Liverpool Moorebank Arterial Road Investigations (LMARI) model and supplemented by 2014/2015 traffic counts from the Moorebank Precinct East (MPE) (SIMTA) Stage 1 study (refer to Appendix M of the EIS). The traffic counts and basis for the traffic modelling uses for the Proposal is therefore considered suitable.	Appendix M of the EIS.
	EIS does not discuss traffic movements from their origins / destinations to Moorebank Avenue	The distribution of additional traffic generated by the Proposal is a key factor in determining the impact of the Proposal on the study road network. An assessment of the origin and directional movement of trucks and cars utilising the Proposal site during operation is presented in Section 7.4.2 and Appendix M of the EIS.	Appendix M of the EIS.
	Congestion on the M5 bridge has not be addressed in the EIS	The impact of traffic generated by the Proposal was assessed for the M5 Motorway, including the M5 bridge (refer to the OTTIA in Appendix M of the EIS). Intersection assessments (SIDRA) were undertaken at locations on the M5 Motorway to determine the extent of traffic generation and associated impacts to the level of service of these intersections. Intersections relevant to the M5 bridge include the M5 Motorway / Moorebank Avenue intersection (I-2) to the east of the M5 bridge and the M5 Motorway / Hume Highway intersection (I-3) to the west of the M5 bridge. The assessment identifies that the Proposal would result in generally a less than 5% increase in traffic at these intersections (with the exception of the M5 Motorway/Moorebank Avenue in AM and PM peak in 2019 ⁷) as a result of the Proposal. The assessment notes that, as a result of background traffic growth alone (i.e. without the Proposal), the following impacts would occur:	Appendix M of the EIS.

⁷ It is noted that this traffic increase reduces to below 5% in 2029 in both the AM and PM peak as a result of an increase in background traffic movements.

Issue	Summary	Comments	Reference
		<ul style="list-style-type: none"> I-3 (M5 Motorway / Hume Highway) and I-6 (M5 Motorway / Heathcote Road) intersections level of service would fail (i.e. level of service E and below in AM peak) in 2019 These three intersections (M5 Motorway / Moorebank Avenue, M5 Motorway / Hume Highway and M5 Motorway / Heathcote Road) would all fail (i.e. level of service F in AM peak) in 2029. <p>Ultimately, the projected increase in background traffic growth is mainly responsible for predicted level of service failures for M5 intersections outlined above. A number of network solutions are suggested within the OTTIA (refer to Appendix M), that could be undertaken by Roads and Maritime to improve the level of service of M5 intersections and easing future congestion impacts along the M5, including the M5 bridge.</p>	
	<p>The assessment does not mention traffic delays and queueing from the Proposal as identified in previous EIS's.</p>	<p>An assessment of traffic delays and queueing at intersections during operation (also known as Level of Service) for the Proposal is included in Section 7 and Appendix M of the EIS.</p> <p>The assessment identified that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of mitigation and management measures.</p> <p>The traffic generated by the Proposal would be managed through a mix of:</p> <ul style="list-style-type: none"> an upgrade to the Anzac Road and Moorebank Avenue intersection (Proposed main site entrance), regional road network improvements (undertaken by Roads and Maritime Services) to cater for existing background traffic capacity issues; and operational procedures to be included in an Operational Traffic Management Plan (based on the Preliminary Operational Traffic Management Plan provided in Appendix M of the EIS). 	<p>Section 7 and Appendix M of the EIS.</p>
<p>Safety</p>	<p>Increase in traffic, particularly heavy vehicles, potentially causing an increase in traffic accidents</p>	<p>The Traffic Impacts Assessment in Section 7.4 and Appendix M of the EIS assessed existing and potential traffic accidents on surrounding roads.</p>	<p>Section 7.4 and Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>The Proposal would increase daily traffic volumes on Moorebank Avenue and Cambridge Avenue. The net impact of the additional traffic generated by the Proposal, as well as the proposed access points and improvements associated with the Proposal would result in an increase in crashes on both roads.</p> <p>The crash rate on Moorebank Avenue is forecast to increase from 10.2 crashes per year to 11.6 crashes per year. The crash rate on Cambridge Avenue is forecast to increase from 5 to approximately 5.2 crashes per year.</p> <p>Road safety for the Proposal would be managed through design of the proposed Moorebank Avenue/Anzac Road intersection and site access points, road network improvements (undertaken by Roads and Maritime) and with the implementation of procedures in the PCTMP and POTMP (Appendix M of the EIS).</p>	
	<p>Concerns that the project would increase congestion and hinder emergency response vehicle access</p>	<p>As discussed in the traffic impact assessment (Section 7 and Appendix M of the EIS) the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network. Traffic impacts would be managed through the design of the proposed Moorebank Avenue/Anzac Road intersection and site access points, road network improvements (undertaken by Roads and Maritime) and with the implementation of procedures in the Preliminary Operational Traffic Management Plan (Appendix M of the EIS). Further, the CTMP would include consideration of emergency vehicle access to the Proposal site. During operation, emergency vehicle access would be managed through an Emergency Vehicle Response Plan developed for the Proposal.</p>	<p>Section 7 and Appendix M of the EIS.</p>
	<p>Concerns around the safety of trucks merging on to the M5 Motorway</p>	<p>The functionality and safety of the M5 interchange is not within the scope of the MPW Project.</p> <p>The operation of the Proposal would result in a future reduction of road traffic locally and regionally through facilitating an increase in freight movement by rail between the Proposal site and Port Botany that would otherwise be transported by other means to meet the demand for future growth.</p> <p>The AIMSUN modelling conducted for the Proposal considered the potential vehicular conflict and delays associated with weaving and merging of traffic at the M5 interchange. In assessing weaving impacts the AIMSUN model examines driver behaviour, vehicle acceleration and</p>	

Issue	Summary	Comments	Reference
		<p>deceleration characteristics and the road geometry. The resulting impacts are reported in terms of the LoS at these intersections.</p>	
	<p>Concerns around cyclist safety on Moorebank Avenue</p>	<p>As identified in Section 5.12 of the OTTIA (Appendix M of the EIS), the existing cycling infrastructure in the area is considered adequate. On-road cycle facilities are currently available along Moorebank Avenue, for which the Proposal does not involve any alterations.</p> <p>Cycling along the sealed and marked shoulders of Moorebank Avenue therefore remains suitable. The Proposal would not result in any adverse impact to cycle accessibility. It is noted that part of Moorebank Avenue, to the south of the Proposal site entrance (Moorebank Avenue/Anzac Road intersection), is to be upgraded with the provision of shared paths, to accommodate pedestrians and cyclists, under the MPE Stage 2 Proposal (SSD 7709). However, this is subject to separate approval and not considered part of this Proposal. It is proposed that off-road pedestrian/cycle paths and on-road cycle provisions would be provided within the Proposal site to improve pedestrian and cyclist accessibility for workers.</p>	<p>Section 5.12 of Appendix M of the EIS.</p>
	<p>Safety of heavy vehicles using local roads</p>	<p>Heavy vehicle routes would be managed through the PCTMP and POTMP included in Appendix M of the EIS.</p> <p>Heavy vehicles would not use local roads in residential areas, for inbound or outbound movements during either construction or operation of the Proposal. Measures to manage heavy vehicle routes during construction have been included in the PCTMP (refer to Appendix M of the EIS) and would be further developed for the CTMP as part of the CEMP.</p> <p>Operational heavy vehicle movements to and from the Proposal site would be undertaken in accordance with the final OTMP, which would form part of the OEMP for the Proposal. It is intended that the OTMP would be prepared by updating the POTMP which was provided at Appendix M of the EIS.</p> <p>Section 3.1 of the POTMP notes that heavy vehicle movements to and from the Proposal site would be restricted to the designated truck routes included in the plan, which generally avoid residential areas, where reasonable and feasible.</p>	<p>Appendix M of the EIS</p>

Issue	Summary	Comments	Reference
Road infrastructure	Damage to roads from increases in heavy vehicle numbers	<p>The increase in heavy vehicle numbers from the Proposal has the potential to result in increased asset degradation. However, it is expected that the majority of truck movements would be on either privately owned roads (Moorebank Avenue south) and Roads and Maritime roads which are designed to cater for truck movements.</p> <p>Notwithstanding this, as discussed in Section 7 of the EIS, consideration would be given by SIMTA to the relevant infrastructure contributions based on the proposed traffic generation.</p>	<p>MPW Concept Approval</p> <p>Section 22 of the EIS.</p>
	Road infrastructure upgrades should be completed prior to the Proposal	<p>The OTTIA provides a discussion on the impacts of the Proposal and the potential road upgrades and surrounding road network improvements (refer to Appendix M of the EIS). The Proposal includes an upgrade to the Moorebank Avenue and Anzac Road intersection to facilitate entrance to the Proposal site and accommodate traffic from the Proposal and anticipated background traffic growth (2029).</p> <p>As discussed in Section 6 of this RtS, this intersection design has been altered from the EIS design to further respond to anticipated traffic generation and growth. This intersection would be constructed during the construction phase of the Amended Proposal and be commissioned prior to the operation of the Amended Proposal.</p> <p>In addition to this upgrade, a number of road network improvements have been identified. The timing of these road network improvements being undertaken is subject to discussions with Roads and Maritime.</p>	<p>Appendix M of the EIS</p> <p>Section 6 of this RtS</p>
Existing road infrastructure is not adequate to support the project		<p>The Traffic Impact Assessment provided in Section 7 and Appendix M of the EIS identifies and proposes mitigation measures for traffic impacts associated with the Proposal.</p> <p>The traffic impact assessment concluded that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of mitigation and management measures.</p> <p>The OTTIA highlighted that there are several other regional intersections requiring upgrade in order to cater for the projected background traffic growth of the local road network. The OTTIA</p>	<p>Section 7 and Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>recommends that Roads and Maritime undertake intersection upgrades at the following locations in order to improve the operation of the local road network:</p> <ul style="list-style-type: none"> • M5 Motorway / Moorebank Avenue intersection • M5 Motorway / Hume Highway intersection • Moorebank Avenue / Newbridge Road intersection • Moorebank Avenue / Heathcote Road intersection • M5 Motorway / Heathcote Road intersection. <p>Performance of the road network, including intersections will continue to be monitored and modelled in accordance with the existing conditions of the MPW Concept Approval (SSD 5066).</p>	
	<p>Cambridge Avenue would need to be upgraded and extended to Heathcote Road to accommodate heavy vehicle movements</p>	<p>Heavy vehicle routes would be managed through the PCTMP and the POTMP included in Appendix M of the EIS.</p> <p>As outlined in Section 7.4 of the EIS, the vast majority of trucks accessing the Proposal would do so via the M5 Motorway to the west, Moorebank Avenue to the north, and Hume Highway. No container trucks during either construction and operation of the Proposal would use Cambridge Avenue other than a few truck movements required for the removal and safe disposal of unsuitable materials from the Proposal site.</p> <p>Measures to manage heavy vehicle routes during construction and operation are outlined in the PCTMP and POTMP respectively. These documents would be further developed to form subplans as part of the respective CEMP and OEMP for the Proposal (refer to Appendix M of this EIS).</p> <p>During operation, a small number of light operational vehicles would use Cambridge Avenue. Impacts predicted on Cambridge Avenue and the two roundabouts at Cambridge Avenue/Glenfield Road and Cambridge Avenue/Canterbury Road are minor, given the traffic (light vehicles only) generated by the Proposal using this road would be minimal and both intersections would be operating with LoS between A and B (respectively) both with and</p>	<p>Appendix M of the EIS.</p>

Issue	Summary	Comments	Reference
		without the Proposal for both scenarios. As such, an extension / upgrade is not considered necessary.	
	Additional roads and intersections to those identified in the EIS would require an upgrade to accommodate the proposal	<p>An assessment of traffic impacts to intersections surrounding the Proposal has been included in Section 7 and Appendix M of the EIS.</p> <p>The traffic study areas identified in the EIS are derived from investigations based on previous modelling undertaken for the MPW Concept EIS and the Roads and Maritime LMARI traffic model. The core traffic study area selected for the Proposal includes eight key intersections, which have the most potential to be impacted by the Proposal and have been confirmed through consultation with Roads and Maritime. Any other intersections not included in the assessment are not considered to be impacted by the Proposal and therefore are outside of the scope of this assessment.</p> <p>The OTTIA highlighted that there are several other regional intersections requiring upgrade in order to cater for the projected background traffic growth of the local road network. The OTTIA recommends that Roads and Maritime undertake intersection upgrades at the following locations in order to improve the operation of the local road network:</p> <ul style="list-style-type: none"> • M5 Motorway / Moorebank Avenue intersection • M5 Motorway / Hume Highway intersection • Moorebank Avenue / Newbridge Road intersection • Moorebank Avenue / Heathcote Road intersection • M5 Motorway / Heathcote Road intersection. <p>Performance of the road network, including intersections will continue to be monitored and modelled in accordance with the existing conditions of the Concept Approval (SSD 5066).</p>	Section 7 and Appendix M of the EIS.
Use of local roads	Commuter vehicles utilising back roads to avoid congestion	Heavy vehicle routes would be managed through the PCTMP and the POTMP included in Appendix M of the EIS.	

Issue	Summary	Comments	Reference
	<p>Heavy vehicles utilising local roads</p> <hr/> <p>Increase in traffic on surrounding local roads</p>	<p>Heavy vehicles would not use local roads, in residential areas, for inbound or outbound movements during either construction or operation of the Proposal. Measures to manage heavy vehicle routes during construction and operation have been included in the PCTMP and POTMP and would be further developed as part of the CEMP (refer to Appendix M of this EIS).</p> <p>Haulage routes would be restricted through signage and education to ensure, where possible, that heavy vehicles do not travel through nearby residential areas to access the Proposal site, in particular Moorebank (Anzac Road) or the Wattle Grove residential areas.</p>	<p>Section 7 and Appendix M of the EIS.</p>
<p>Access</p>	<p>Insufficient access for heavy vehicles with only one main entry point</p>	<p>The main access (entrance and exit) to the Proposal site for heavy and light vehicles would be via the new site access off Moorebank Avenue. From the Moorebank Avenue/Anzac Road intersection vehicles would access the site via a two-lane roundabout that has been designed to accommodate A-double vehicles of up to 36 metres in length. The roundabout would provide access to the IMT facility, warehousing area, Rail link connection, and the ABB site from Moorebank Avenue. The main site exit would include two lanes which would facilitate trucks and light vehicles exiting the Proposal site and the ABB site onto Moorebank Avenue.</p> <p>This entrance has been designed for the Proposal and is considered sufficient to accommodate the anticipated number of heavy vehicles accessing the site.</p>	<p>Section 7 and Appendix M of the EIS.</p>
<p>Noise</p>			
<p>Crushing plant</p>	<p>Noise impacts from the crushing plant on the suburbs of Casula, Glenfield and Wattle Grove</p> <hr/> <p>Noise impacts to residents from extended hours of crushing plant</p>	<p>An assessment of noise and vibration impacts associated with the Proposal including the proposed crushing plant is included in Section 8 and Appendix N of the EIS.</p> <p>This assessment considered each works period for the construction phase and determined that the construction noise emissions are expected to comply with the established Noise Management Levels (NML) at all sensitive receivers, with the exception of Casula, where construction noise levels during bulk earthworks (works period C) are predicted to exceed the NML by 1 dBA during standard working hours. This exceedance is considered negligible and does not require mitigation. Construction noise levels during all proposed out of hours works periods are predicted to comply with the NML.</p>	<p>Section 8 and Appendix N of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>Further, cumulative construction noise levels with concurrent activities associated with MPW Early Works, MPE Stage 1 and the Proposal are predicted to comply with the NMLs at all receivers, with the exception of Casula, which exceeds the NML at the most affected residential receivers by up to 2 dBA. Again, this exceedance is considered negligible and does not require mitigation. Notwithstanding this, a number of mitigation measures, including the preparation of a Noise and Vibration Management Plan, would be implemented during construction of the Proposal to reduce potential impacts.</p> <p>The mitigation measures (no. 2B and 2C) provided for the Proposal note that noise measurements would be undertaken at regular intervals, in areas within close proximity to sensitive receivers. and upon receipt of adverse comment/complaints during the construction program. If the attended noise monitoring identifies greater impacts than those predicted in the modelling, further mitigation would be considered and implemented as appropriate to manage the noise emission.</p>	
Operational noise	<p>Noise from rail movements including wheel squeal and stationary idling vehicles</p> <hr/> <p>Noise from operation of the proposal</p> <hr/> <p>Noise from specific sources such as reversing alarms, horns, pneumatic braking, trains shunting, containers clanging together, starting engines</p>	<p>An assessment of noise and vibration impacts from the operation of Proposal is included in Section 8 and Appendix N of the EIS.</p> <p>The assessment of noise impacts predicted noise levels from dominant noise sources such as trucks, trains and container handling equipment to develop 'worst case scenarios' for both adverse and calm meteorological conditions. These predictions were compared against relevant noise criteria. The assessment also included consideration of transient noise events such as reversing alarms, horns, pneumatic braking, trains shunting, containers clanging together and starting engines and how these sources relate to sleep disturbance.</p> <p>The assessment determined that the operational noise levels from warehousing and the IMT (including container handling) would comply with the relevant criteria, including relevant sleep disturbance goals. Additionally, cumulative noise levels due to the concurrent operation of the Proposal and the MPE Stage 1 Proposal are predicted to comply with the criteria established in accordance with the NSW Industrial Noise Policy.</p> <p>An assessment of rail noise from the Proposal has been included in Section 8 and Appendix N of the EIS. A projected rail noise impact assessment has been undertaken and is included at Appendix D of this RtS.</p>	<p>Section 8 and Appendix N of the EIS.</p> <p>Appendix D of this RtS</p>

Issue	Summary	Comments	Reference
		<p>Rail noise modelling indicates that the $L_{Aeq,period}$ rail noise levels from the Amended Proposal would comply with the RING criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion by up to 4 dB in Casula. These criteria are considered particularly stringent to the extent that the existing L_{Aeq} and L_{Amax} noise levels are already above the criteria. L_{Aeq} and L_{Amax} rail noise levels at the most sensitive residential receivers near the Rail link are predicted to exceed the established noise goals. However, due to the proximity of these receivers to the Southern Sydney Freight Line, rail movements associated with the Amended Proposal are not expected to result in a noticeable change to the existing L_{Aeq} and L_{Amax} rail noise levels.</p> <p>Further rail noise monitoring has been undertaken in February 2017 to greater establish existing rail noise levels. Existing levels of rail noise have been established at a number of locations in Casula, including the area where the <i>Rail Infrastructure Noise Guideline</i> (RING) criterion is predicted to be exceeded. At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dB, which is considered unlikely to be noticeable and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal.</p> <p>An assessment of road noise was undertaken in accordance with the <i>Road Noise Policy</i> criteria and using the Calculation of Road Traffic Noise (CORTN) algorithm. The assessment concluded that increases in road traffic noise as a result of the Amended Proposal are considerably less than 2 dBA and are therefore compliant with the RNP.</p>	
<p>It is illogical to suggest that because background noise levels are already above guidelines that slightly more noise would not be an issue</p>		<p>Section 8.4 of the EIS identified potential rail noise impacts from the Proposal. The assessment identified that based on the INP amenity levels, nearby receiver locations are already subject to significant levels of rail noise from the existing network rail lines (SSFL and the Main Southern Line).</p> <p>A projected rail noise impact assessment has been undertaken and is included at Appendix D of this RtS. Rail noise modelling indicates that the $L_{Aeq,period}$ rail noise levels from the Amended Proposal would comply with the RING criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion by up to 4 dB in Casula. These criteria are considered particularly stringent to the extent that the existing L_{Aeq} and L_{Amax} noise</p>	<p>Section 8 and Appendix N of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>levels are already above the criteria. L_{Aeq} and L_{Amax} rail noise levels at the most sensitive residential receivers near the Rail link are predicted to exceed the established noise goals. However, due to the proximity of these receivers to the Southern Sydney Freight Line, rail movements associated with the Amended Proposal are not expected to result in a noticeable change to the existing L_{Aeq} and L_{Amax} rail noise levels.</p> <p>Further rail noise monitoring has been undertaken in February 2017 to greater establish existing rail noise levels. Existing levels of rail noise have been established at a number of locations in Casula, including the area where the Rail Infrastructure Noise Guideline (RING) criterion is predicted to be exceeded. At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dB, which is considered unlikely to be noticeable and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal.</p>	
Extended operating hours of the warehouse terminal will negatively impact on residents		<p>An assessment of noise and vibration impacts from operation of IMT including 24 hour operations is included in Section 8 and Appendix N of the EIS.</p> <p>The assessment included an identification of nearby sensitive receivers including, residents, schools, day-cares and industrial / commercial receivers.</p>	Section 8 and Appendix N of the EIS.
Sleep disturbance from 24 hour operations		<p>The noise modelling indicates that the operational noise levels from the Proposal would comply with the relevant criteria, including relevant sleep disturbance goals. Additionally, cumulative noise levels due to the concurrent operation of the Proposal and the MPE Stage 1 Proposal are predicted to comply with the established criteria.</p>	Section 6, 7 and Appendix D of this RtS.
Noise impacts to residents, schools and day-cares from 24 hour rail movements		<p>Following consultation with NSW Ports, the warehousing included within the Amended Proposal is to operate 24 hours a day, 7 days a week (refer to Section 6 of this RtS). Further noise impact assessment has been undertaken for the operation of this warehousing (refer to Section 7 and Appendix D of this RtS). The assessment demonstrates that the Amended Proposal complies with the established intrusiveness and amenity criteria with the exception of the most affected receivers in Casula under adverse meteorological conditions during the night time period with an exceedance of intrusive criteria up to 1 dBA. This assessment is consistent</p>	

Issue	Summary	Comments	Reference
		<p>with the assessment within the EIS. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated.</p> <p>In addition to this, best practice noise mitigation measures would be implemented for the operational phase of the Amended Proposal including:</p> <ul style="list-style-type: none"> • Noise monitoring (refer to mitigation measures 2B and 2C) • A gate appointment system would be implemented to minimise truck loading/unloading wait times and resultant queueing. Trucks would be turned away from facility if arriving too early • Truck marshalling lanes would be included to minimise congestion and queueing • The provision of information signs and communication of MPW idle reduction policy. A vehicle booking system, truck marshalling lanes and rejection of trucks that arrive early will be implemented / provided to minimise wait times and queueing. This system will be implemented on commencement of operation. 	
	<p>Noise from light and heavy vehicles traveling to and from the site 24 hours a day</p>	<p>An assessment of road noise, undertaken in accordance with the RNP criteria and using the Calculation of Road Traffic Noise (CORTN) algorithm is included in Section 8 and Appendix N of the EIS.</p> <p>The assessment concluded that increases in road traffic noise as a result of the Proposal are considerably less than 2 dBA and are therefore compliant with the RNP.</p>	<p>Section 8 and Appendix N of the EIS.</p>
	<p>Wheel squeal impacts to residents on Tusculum Court (Wattle Grove)</p>	<p>Rail noise modelling was undertaken for all trains travelling between the Proposal site and the Southern Sydney Freight Line (SSFL). Rail noise emissions from the Proposal would be below criteria at Wattle Grove.</p> <p>A number of best practice measures would be incorporated into the design and operation of the Rail link, where reasonable and feasible, to manage wheel squeal, including:</p> <ul style="list-style-type: none"> • Wagons on the Rail link incorporate available best practice technologies for reducing wheel squeal, such as permanently coupled “multi-pack” steering wagons using Electronically Controlled Pneumatic braking with a wire based distributed power system; 	<p>Section 8 and Appendix N of the EIS.</p> <p>Appendix K of this RtS.</p>

Issue	Summary	Comments	Reference
		<ul style="list-style-type: none"> Track grinding is carried out within the rail link to maintain the correct profile to enable proper rolling stock steering. <p>With the implementation of these measures the occurrence of curve squeal would be reduced.</p>	
	Impacts from idling trains on the rail line waiting to access the warehouse	<p>Trains would interface with the Proposal through the IMT and would not directly access warehousing. Train idling would be minimised as far as practical while being unloaded at the IMT.</p> <p>An assessment of noise impacts to nearby sensitive receivers from operation of locomotives on the Rail Link (including idling) is included in Section 8 and Appendix N of the EIS.</p> <p>A number of mitigation measures would be considered to minimise idling of locomotives, including:</p> <ul style="list-style-type: none"> Anti-idle policy and communication / training for locomotive operators Unnecessary idling avoided through driver training and site anti-idle policy. <p>In addition to this, best practice has been further considered to reduce the impacts of the Amended Proposal on the surrounding area, refer to Appendix K of this RtS.</p>	Section 8 and Appendix N of the EIS.
General	Noise impacts from 24 hour operations	<p>An assessment of noise and vibration impacts from operation of Proposal including 24 hour operations of the IMT is included in Section 8 and Appendix N of the EIS.</p> <p>The assessment concludes that operational noise levels from the Proposal would comply with the relevant criteria, including relevant sleep disturbance goals. Additionally, cumulative noise levels due to the concurrent operation of the Proposal and the MPE Stage 1 Proposal are predicted to comply with the established criteria. As such, near by sensitive receivers are not anticipated to be significantly impacted by noise from 24 hour IMT operations.</p> <p>Following on from consultation with NSW Ports, the warehousing included within the Amended Proposal is to operate 24 hours a day, 7 days a week (refer to Section 6 of this RtS). Further noise impact assessment has been undertaken for the operation of this warehousing. The assessment demonstrates that the Amended Proposal complies with the established intrusiveness and amenity criteria with the exception of the most affected receivers in Casula</p>	Section 8 and Appendix N of the EIS. Section 6, 7 and Appendix D of this RtS.

Issue	Summary	Comments	Reference
		<p>under adverse meteorological conditions during the night time period with an exceedance of intrusive criteria up to 1 dBA. This assessment is consistent with the assessment within the EIS. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated (refer to Section 7 and Appendix D of this RtS).</p> <p>Section 8.4 of the EIS identified potential rail noise impacts from the Proposal. The assessment identified that based on the INP amenity levels, nearby receiver locations are already subject to significant levels of rail noise from the existing network rail lines (SSFL and the Main Southern Line).</p> <p>Rail noise modelling indicates that the LAeq,period rail noise levels from the Proposal would comply with the RING criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion by up to 4 dB in Casula. These criteria are considered particularly stringent to the extent that the existing LAeq and LAmix noise levels are already above the criteria. LAeq and LAmix rail noise levels at the most sensitive residential receivers near the Rail link are predicted to exceed the established noise goals. However, due to the proximity of these receivers to the Southern Sydney Freight Line, rail movements associated with the Proposal are not expected to result in a noticeable change to the existing LAeq and LAmix rail noise levels.</p> <p>Further rail noise monitoring has been undertaken in February 2017 to greater establish existing rail noise levels. Existing levels of rail noise have been established at a number of locations in Casula, including the area where the Rail Infrastructure Noise Guideline (RING) criterion is predicted to be exceeded. At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time LAeq,period rail noise level of less than 2 dB, which is considered unlikely to be noticeable and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal.</p>	
	<p>The Proposal will result in noise impacts to residents in what are now considered quiet neighbourhoods</p>	<p>An assessment of noise and vibration impacts from the Proposal is included in Section 8 and Appendix N of the EIS.</p>	<p>Section 8 and Appendix N of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>Noise modelling and assessment for the Proposal identified sensitive receivers previously identified in the MPW Concept EIS, along with existing ambient noise levels, based on 20 months of monitoring data.</p> <p>The assessment indicates that during construction noise emissions are expected to comply with the established Noise Management Levels (NML) at all sensitive receivers, with the exception of Casula, where construction noise levels during bulk earthworks (works period C) are predicted to exceed the NML by 1 dBA which is considered negligible. Generally, noise levels generated by the Proposal would be lower than the existing background noise levels.</p> <p>During operation, noise levels from the Proposal would generally comply with relevant criteria, including relevant sleep disturbance goals and generally would be lower than existing background noise levels. During periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed (by 1 dBA) the established night time intrusiveness criterion at the most affected receivers in Casula. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated.</p> <p>Further, the amendments to the Proposal would not result in any increase in noise emissions associated with the Proposal, and therefore would not alter the results provided above (refer to Section 7 and Appendix D of this RtS).</p>	
	<p>The area is already affected by noise from the railway, motorway, Army and Defence, Kingsford Smith Airport Operations, Bankstown Airport Operations. The intermodal would result in cumulative impacts that would exceed reasonable noise levels.</p>	<p>The existing background noise levels used to forecast construction and operational noise impacts from the Proposal have been established via an extensive monitoring program undertaken during the MPW Concept Approval. This background noise monitoring data includes noise contributions from other existing noise sources such as those mentioned in the submission. In addition to this, the assessment provided within the EIS (Section 8 and Appendix N) also includes a cumulative assessment for other projects which are anticipated to be undertaken concurrently with the Proposal.</p> <p>Additional noise monitoring has also been undertaken recently to further considered the background noise levels associated with the operation of the SSFL (refer to Appendix D of the EIS).</p>	<p>Section 8 and Appendix N of the EIS.</p> <p>Section 6, 7 and Appendix D of this RtS.</p>

Issue	Summary	Comments	Reference
		<p>Since the cumulative operational noise levels due to the intermodal facilities are more than 10 dB below the relevant daytime criteria at all sensitive receivers, they would be considered unlikely to contribute to any exceedance of daytime amenity criteria.</p>	
	<p>Noise impacts to Glen Regent Estate (Casula)</p>	<p>Modelling of operational scenarios indicated that noise levels are not expected to result in any exceedance to either the amenity or intrusive noise criteria in Casula during normal conditions. However, during periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed the established night time intrusiveness criterion at the most affected receivers in Casula. At six residential receivers in Casula, the noise levels are predicted to exceed the criterion by up to 1 dB. Exceedances of up to 1 dB are considered negligible. Exceedances would occur at residences in the north of Casula which are nearer to the Proposal. Residences within Glen Regent Estate are not predicted to experience exceedances of the relevant criteria during operation, even under adverse conditions.</p> <p>During operation, noise levels from the Proposal would comply with all relevant criteria, including relevant sleep disturbance goals and generally would be lower than existing background noise levels.</p>	<p>Section 8 and Appendix N of the EIS.</p>
	<p>The increase in site level from greater quantities of fill will result in greater impacts from operational noise</p>	<p>The noise model developed to assess the impacts associated with the Proposal includes details of noise source and receiver locations, details of warehouse buildings and topography (including final site elevation).</p> <p>The increase in site elevation (compared to the existing level) has the potential to increase noise impacts however based on the modelling provided the noise impacts from the proposal would generally meet the criteria (with the exception of Casula in adverse metrological conditions which result in a minor and negligible increase). These noise impacts would be managed through the implementation of a number of mitigation measures, including an Operational Noise and Vibration Management Plan (refer to Section 22 of the EIS).</p>	<p>Section 8 and Appendix N of the EIS.</p> <p>Section 8 of this RfS.</p>

Issue	Summary	Comments	Reference
	Noise impacts to Glenfield Farm	<p>Although not explicitly mentioned in the EIS, Glenfield farm has been assessed as a residential receiver in the Casula noise catchment.</p> <p>During operation, noise levels in Casula from the Proposal would generally comply with relevant criteria, including relevant sleep disturbance goals and generally would be lower than existing background noise levels. During periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed (by 1 dBA) the established night time intrusiveness criterion at the most affected receivers in Casula. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated through an Operational Noise and Vibration Management Plan developed for the Proposal.</p> <p>Additional modelling and assessment has been undertaken for the amendments to the Proposal as part of this RtS (refer to Section 7 and Appendix D of this RtS). The amendments to the Proposal would not result in any increase in noise emissions associated with the Proposal, and therefore would not alter the results provided above</p>	Section 8 and Appendix N of the EIS.
Assessment	<p>The EIS does not provided a thorough noise assessment</p> <hr/> <p>The assessment of noise impacts to residences is inadequate</p>	<p>An assessment of noise impacts associated with the Proposal is included in Section 8 and Appendix N of the EIS. The assessment has been undertaken in accordance with relevant NSW Government guidelines and policies and the SEARs issued for the Proposal. This noise impact assessment is also supported by supplementary recent additional background noise monitoring which has considered the amendments to the Proposal (refer to Section 7 and Appendix D of this RtS).</p> <p>The assessment concluded that whilst the Proposal would result in minor exceedances under some conditions at certain locations, noise impacts are considered acceptable.</p>	<p>Section 8 and Appendix N of the EIS.</p> <p>Sections 6, 7 and Appendix D of this RtS.</p>
	CadnaA noise model does not produce accurate and realistic noise level predictions	Operational noise emissions associated with the Proposal were modelled using the CadnaA V4.6 acoustic noise prediction software and the CONCAWE noise prediction algorithm. The CONCAWE noise propagation model is standard practice in NSW and used around the world and is widely accepted as an appropriate model for predicting noise over significant distances.	Section 8 and Appendix N of the EIS.

Issue	Summary	Comments	Reference
	<p>The noise model inputs are not based on reliable data</p>	<p>Background noise levels have been based on two years' of noise monitoring data which has provided a robust and reliable dataset to determine daytime, evening and night-time noise background levels in the surrounding environment. This monitoring has been further supported through the recent undertaking of rail noise monitoring related to the SSFL (refer to Appendix D of this EIS).</p>	<p>Section 8 and Appendix N of the EIS. Appendix D of this RtS.</p>
	<p>An increase in noise due to the increase in local traffic from the Intermodal terminal has not been fully examined</p>	<p>An assessment of noise impacts associated with the Proposal including impacts from traffic generation is included in Section 8 and Appendix N of the EIS.</p> <p>Operational traffic flow to and from the Proposal would be primarily along the M5 Motorway in both the east and west directions, and along Moorebank Avenue between the Proposal site and the M5 Motorway. It is expected that a small volume of traffic travelling to and from the Proposal site would do so along Moorebank Avenue, to the north of the M5 Interchange, and along Anzac Road east of Moorebank Avenue.</p> <p>The assessment for the Proposal concluded that increases in road traffic noise levels along the M5 Motorway, Moorebank Avenue, and Anzac Road are considerably less than 2 dBA. In accordance with the RNP, no mitigation of traffic noise levels is considered necessary.</p>	<p>Section 8 and Appendix N of the EIS.</p>
	<p>Consideration should be given to shift workers when setting acceptable daytime noise levels.</p>	<p>An assessment of potential sleep disturbance noise impacts for the night-time was undertaken in accordance with NSW Environmental Protection Agency (EPA) guidelines and the <i>NSW Industrial Noise Policy</i>. The assessment determined that noise levels from transient and high noise generating activities would be expected to comply with the sleep disturbance guidelines.</p> <p>The assessment of noise impacts during the daytime period determined that with the implementation of appropriate noise mitigation, the <i>NSW Industrial Noise Policy</i> noise criteria would be achieved at the surrounding communities. As such the daytime noise levels would achieve the NSW Industrial Noise Policy objectives to minimise disturbance and preserve acoustic amenity within the community.</p>	<p>Section 8 and Appendix N of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>The design and construction of the Proposal would include measures to reduce and control noise levels during the day and night time and specifically control noise from short lived or high noise events which may otherwise have the potential to disturb sleep.</p> <p>Since the operational noise levels due to the intermodal facilities are more than 10 dB below the relevant daytime criteria at all sensitive receivers, they would be considered unlikely to contribute to sleep disturbance of shift workers.</p>	
	Monitoring locations L1, L2 and L3 were not appropriate and provided skewed results	The placement of the noise monitoring equipment was in general accordance with the NSW Industrial Noise Policy (EPA, 2000), and the resultant Rating Background Level are considered reasonable for suburban residential areas.	Section 8 and Appendix N of the EIS. Appendix D of this RtS.
Mitigation	No noise mitigation has been provided to mitigate impacts to adjacent residents from increase vehicle movements on Anzac Road	<p>An assessment of noise impacts associated with road traffic from the Proposal is included in Section 8 and Appendix N of the EIS.</p> <p>Impacts were assessed using available traffic data according to vehicle type and period of the day for the most affected residential receivers. The predicted increase in traffic noise was quantified using the Calculation of Road Traffic Noise (CORTN) algorithm.</p> <p>Predicted increases at typical receivers with a 12 m setback along Anzac Road would be around 0.1 dBA during both the day and night time periods. This increase is not perceptible to the human ear and is significantly below the 2 dBA noise goal outlined within the <i>Road Noise Policy</i>. Consequently, noise mitigation is not considered necessary.</p>	Section 8 and Appendix N of the EIS.
	There is no plan to minimise noise impacts to receivers	<p>Measures to manage noise impacts associated with the Proposal are included in Section 8 and Appendix N of the EIS.</p> <p>Construction noise modelling results indicate that minor exceedances of relevant noise criteria are expected during construction, but are largely within applicable NMLs at sensitive receivers selected for the assessment. Additional measures to mitigate noise impacts associated with</p>	Section 8 and Appendix N of the EIS. Appendix D of this RtS.

Issue	Summary	Comments	Reference
		<p>construction activities would be identified within a Construction Noise and Vibration Management Plan developed for the Propsoal.</p> <p>During operation a noise wall would be established along a portion of the western boundary of the Proposal site to minimise noise.</p> <p>The operation of the Proposal is not expected to result in any exceedance to either the amenity or intrusive noise criteria in Glenfield and Wattle Grove, even under adverse meteorological conditions. However, during periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed the established night time intrusiveness criterion at the most affected receivers in Casula. At six residential receivers in Casula, the noise levels are predicted to exceed the criterion by up to 1 dB. Exceedances of up to 1 dB are considered negligible and do not require further mitigation. Additionally, cumulative noise levels due to the concurrent operation of the Proposal and the MPE Stage 1 Proposal are predicted to comply with the established criteria.</p>	
	<p>Mitigation measures will be unable to prevent wheel squeal on the rail link due to the curve radii</p>	<p>A number of best practice measures would be incorporated into the design and operation of the Rail link, where reasonable and feasible, to manage wheel squeal, including:</p> <ul style="list-style-type: none"> • Wagons on the Rail link incorporate available best practice technologies for reducing wheel squeal, such as permanently coupled “multi-pack” steering wagons using Electronically Controlled Pneumatic braking with a wire based distributed power system; • Track grinding is carried out within the rail link to maintain the correct profile to enable proper rolling stock steering. <p>With the implementation of these measures the occurrence of curve squeal would be reduced</p> <p>Recently published research into rail squeal for freight movements in NSW (Hanson, D et al. Curve Squeal: Causes, Treatments and Results. Internoise 2014) indicates that effective track grinding and lubrication, as proposed to be implemented in the Rail Link, eliminates more than 90% of squeal events.</p>	<p>Section 8 and Appendix N of the EIS.</p> <p>Appendix D of this RtS.</p>

Issue	Summary	Comments	Reference
	<p>What noise mitigation is proposed for residents in Casula and Wattle Grove</p>	<p>A noise and vibration impact assessment is provided in Section 8 and Appendix N of the EIS and includes a number of mitigation measures.</p>	<p>Section 8 and Appendix N of the EIS.</p>
	<p>Noise mitigation is inadequate to prevent noise impacts to the residents of Casula</p>	<p>During construction, the Proposal would comply with all NMLs with the exception of the most affected residential receivers in Casula. The level of exceedance at receivers would be minor (1 – 2 dBA, which is considered negligible), and does not require mitigation. Exceedance of the NMLs at receivers in Wattle Grove is not anticipated and as such, mitigation is not required.</p>	<p>Section 8 and Appendix N of the EIS.</p>
	<p>Insufficient noise mitigation has been provided to mitigation impacts under 'adverse conditions'.</p>	<p>During operation, the Proposal would comply with all relevant criteria including those set for road traffic noise in the RNP and therefore further mitigation is not required. The assessment of operational impacts, considered the provision of a noise wall along the western boundary of the Proposal to mitigate noise impacts to receivers within Casula. The need for a noise wall was identified during the MPW Concept EIS and is used in modelling assumptions. The location of the noise wall is consistent with best practice as it is located close to significant noise sources and will reduce noise levels in both calm and adverse meteorological conditions.</p> <p>An assessment of rail noise from the Proposal was undertaken in accordance with the RING and previous submissions from the EPA. L_{Aeq} and L_{Amax} rail noise levels at the most sensitive residential receivers near the Rail link are predicted to exceed the project specific rail noise criteria. However, due to the proximity of these receivers to the SSFL, rail movements associated with the Proposal are not expected to result in a noticeable change to the existing L_{Aeq} and L_{Amax} rail noise levels. As such, mitigation is not considered to be required.</p> <p>Additional monitoring and assessment of rail noise background levels has been undertaken for the Amended Proposal as part of this RtS (Appendix D of this RtS). The updated assessment demonstrates compliance with the established RING criteria for private non-network rail lines at the monitoring locations, with the exception of RM1, where the predicted evening and night time L_{Aeq} rail noise levels from the project exceed the RING criterion for a private non-network rail line by 1.2 dBA and 3.9 dBA, respectively. However, at this location, the Amended Proposal would result in an increase in the total evening and night time L_{Aeq} rail noise levels of less than 2 dBA, which is considered unlikely to be noticeable, and does not warrant mitigation.</p>	<p>Section 8 and Appendix N of the EIS.</p>

Issue	Summary	Comments	Reference
		<p>The predicted increase in total rail noise levels during the evening, with the Amended Proposal, at RM2 is more than 2 dBA. However, since the predicted LAeq,evening rail noise level at RM2, due to the Amended Proposal alone, complies with the RING criterion for a private non-network rail line, no mitigation is considered necessary.</p> <p>Whilst the assessment identified that noise mitigation would not be required, a number of strategies have been introduced to further reduce potential noise impacts from the Proposal (Section 8.5 of the EIS). A combination of physical and procedural strategies are proposed to manage potential noise impacts of the Proposal. These include, but are not limited to, restriction of certain activities during construction and operation in the CEMP and OEMPs, respectively. Ambient noise monitoring surveys would be undertaken within Casula, Wattle Grove and Glenfield throughout construction and operation of the Proposal (with annual reporting of noise results up to two years beyond the completion of the Proposal) to appropriately manage potential noise impacts.</p>	
	Noise walls should also be included along the eastern side of the rail entry line.	An assessment of rail noise from the Proposal was undertaken in accordance with the RING and previous submissions from the EPA, and has been included in Section 8 and Appendix N of the EIS. The assessment indicates that rail noise impacts to the suburbs to the east of the rail link (i.e. Wattle Grove) would meet all relevant criteria and the provision of mitigation such as noise walls would not be required.	Section 8 and Appendix N of the EIS.
	Annual noise reporting would not be sufficient to capture single exceedances of noise limits	Ambient noise monitoring surveys would be undertaken periodically within Casula, Wattle Grove and Glenfield throughout construction and operation of the Proposal (with annual reporting of noise results up to two years beyond the completion of the Proposal). Monitoring will include instruments that record continuously and would include measurements of single noise peaks. This monitoring is therefore considered suitable for the Proposal.	Section 8 and Appendix N of the EIS.
	Bushland buffer is inadequate to mitigate noise impacts to the southern area of Wattle Grove	<p>The noise and vibration impact assessment is provided in Section 8 and Appendix N of the EIS.</p> <p>The assessment indicates that noise levels from the Proposal within Wattle Grove would comply with NML and relevant criteria for the base (Proposal only) and cumulative (with MPE</p>	Section 8 and Appendix N of the EIS.

Issue	Summary	Comments	Reference
		Stage 1) during both construction and operation of the Proposal. As such, further mitigation is not required.	
Air			
Air quality / pollution	Concerns that additional heavy vehicles and trains from the Proposal will result in increasing air pollution (in particular diesel emissions) impacting on nearby residents and the environment	An Air Quality Impact Assessment (AQIA) associated with the Proposal is included in Section 9 and Appendix O of the EIS. For the construction phase, the key emissions assessed include fugitive dust or particulate matter (PM), generated during demolition, site clearing and earthworks. During operations, the key emissions assessed were from combustion of diesel fuel.	Section 9 and Appendix O of the EIS.
	Impacts for dust generated by truck movements and particles from truck payloads dispersing into the air	The results for the air quality assessment indicate that the construction phase emissions comply with all relevant assessment criteria as outlined in the NSW Environment Protection Authority (EPA) <i>Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i> (NSW EPA, 2005a). Cumulative predictions are also presented and the results indicate that the construction for the Proposal would result in no additional days over the identified criteria.	Section 9 and Appendix O of the EIS.
	Decrease in air quality in the local and regional air quality from dust and pollution	As indicated in Section 9 of the EIS, primary emissions sources from construction are predicted to arise from hauling on unsealed roads (refer to Table 9-15 of the EIS), while the lowest emissions source is from on-road trucks. During operation of the Proposal, container handling and warehouse operations are the largest emission sources (refer to Table 9-24 of the EIS). These results, coupled with the finding from the Traffic Assessment (refer to Section 7 of the EIS) that there would be no increased congestion compared to background with proposed intersection upgrades, indicate that neither congestion nor heavy vehicle usage associated with operation of the IMT would significantly increase pollution. Construction traffic will provide a temporary increase in particulate loads, however, these fall within EPA assessment criteria.	Section 9 and Appendix O of the EIS.
	Increase in pollution generated by increased congestion and heavy vehicle movements	As indicated in Section 9 of the EIS, primary emissions sources from construction are predicted to arise from hauling on unsealed roads (refer to Table 9-15 of the EIS), while the lowest emissions source is from on-road trucks. During operation of the Proposal, container handling and warehouse operations are the largest emission sources (refer to Table 9-24 of the EIS). These results, coupled with the finding from the Traffic Assessment (refer to Section 7 of the EIS) that there would be no increased congestion compared to background with proposed intersection upgrades, indicate that neither congestion nor heavy vehicle usage associated with operation of the IMT would significantly increase pollution. Construction traffic will provide a temporary increase in particulate loads, however, these fall within EPA assessment criteria.	Section 9 and Appendix O of the EIS.
	The Proposal would exacerbate pollution in an area that is already considered to have high levels of pollution	For the operational phase of the Proposal the maximum increase under a worst case scenario, in terms of PM ₁₀ and PM _{2.5} , is minor when compared to existing background conditions. When	Section 9 and Appendix O of the EIS.

Issue	Summary	Comments	Reference
		<p>background is added, there are no additional exceedances of the short-term impact assessment criteria. The annual average background concentrations of PM_{2.5} already exceed the NEPM reporting standard, therefore cumulative predictions are also above the standard at all receptors.</p> <p>A revised Best Practice Summary report is provided in Appendix K of this RtS. Implementation of best practice measures outlined within this document, through the OEMP for the Proposal, would ensure that fugitive emissions and other emissions that can be reduced through practical and feasible means are achieved.</p>	Appendix E of this RtS.
	Removal of natural vegetation which 'filters' the air may increase air pollution	<p>The majority of vegetation removal on the MPW site would be undertaken during the approved Early Works (assessed under SSD 5066), which is out of scope of this report. A comprehensive Biodiversity Offset Package (BOP) for the MPW Project is required to be prepared and implemented under the MPW Concept Approval (Condition D17, SSD 5066). The BOP will be prepared with the objective of offsetting all biodiversity impacts required to be offset under the NSW Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014), within the Moorebank Precinct (comprising the MPW site and the MPE site), including vegetation loss.</p> <p>The AQIA modelling results consider the baseline ambient air quality of the locality in the projection of emissions from identified emission sources. This ambient environment is influenced by the local air shed and topography.</p> <p>The assessment undertaken for the Proposal, during both construction and operation was based on cleared site conditions following Early Works. Surrounding vegetation, including the large Conservation area beside the Georges River would be retained throughout the duration of the Proposal.</p>	Section 9 and Appendix O of the EIS.
	Impacts to air quality from gas used for container cleaning / fumigating	<p>During operation, fumigation may be required for targeted products or for products. The Amended Proposal (refer to Section 6 and Section 7 of this RtS) includes an area for de-gassing of containers, which would be provided adjacent to the IMT. The proposed de-gassing system will include fan forced ventilation for container residual gas extraction and collection. Where fumigation is required, a recapture system will be used to collect and treat residual gas emissions. The proposed de-gassing and recapture system for fumigation will use carbon filtration to control emissions of methyl bromide. All fumigation and container cleaning would</p>	Sections 6,7 and Appendix E of this RtS.

Issue	Summary	Comments	Reference
		<p>be undertaken in accordance with relevant legislation and Department of Agriculture and Water Resources and NSW Environment Protection Authority guidelines.</p>	
		<p>As fugitive emissions from de-gassing and fumigation are not expected, no further quantitative assessment was undertaken in the RtS.</p>	
	<p>Air quality impacts from crushing plant operation to residents in Casula, Glenfield and Wattle Grove</p>	<p>Due to the predominance of emissions being sourced from the operation of plant, fill material crushing and screening was not separately included in the emissions inventory. However, it is noted that it is a relatively minor source and a very small percentage of total emissions (wheel generated dust and wind erosion are the dominant sources). As an example, the relative contribution of emissions during construction from crushing and screening range between 0.5% (PM_{2.5}) and 1.7% (PM₁₀) of the total estimated emissions during construction. These contribution levels do not affect the modelling results and assessment outcomes. To provide transparency for this contribution source and completeness of the site emissions calculations, this source has been incorporated into the Amended Proposal (refer to Appendix E of this RtS).</p>	<p>Sections 9, 22 and Appendix O of the EIS.</p>
	<p>Dust pollution generated by the crushing plant</p>	<p>A number of standard dust suppression methods are outlined within the Preliminary Air Quality Management Plan (refer to Appendix O of the EIS) that would apply to the suppression of dust from crushing plant operation. This plan would be used for the preparation of the AQMP for the Proposal as part of the OEMP.</p>	<p>Section 7 of this RtS</p>
	<p>PM_{2.5} emissions are already in exceedance of NEPM standards without the project.</p>	<p>The overall health outcomes for a population are driven by large scale exposure to background concentrations, rather than relatively small scale exposure to higher concentrations at localised 'hot spots'. The cumulative concentrations of PM_{2.5} predicted in the Air Quality Impact Assessment are dominated by the existing background concentrations and therefore the greatest health gains for the region will occur from measures that reduce background levels, for example by reducing vehicle emissions (refer to Section 9 and Appendix O of the EIS).</p> <p>PM_{2.5} is a regional pollutant and concentrations are relatively uniform across large areas of the Sydney airshed. The Proposal, which replaces freight transport by truck with freight transport by rail, has a role to play in reducing road transport emissions on a regional scale and is therefore contributing to the reduction of the large-scale exposure.</p>	<p>Section 9 and Appendix O of the EIS.</p>

Issue	Summary	Comments	Reference
	<p>TSP generated by the Project would offset gains made by technologies to reduce PM₁₀ emissions in the area</p> <hr/> <p>The project should not operate 24 hours per day due to the low level mixing depths of the area</p>	<p>An assessment of air quality impacts associated with the Proposal, including 24 hours operations (of the IMT terminal) is included in Section 9 and Appendix O of the EIS.</p> <p>The assessment, which incorporates daily mixing depth variation into its modelling, indicates that the construction and operational phases of the Proposal would comply with all relevant assessment criteria with the exception of the annual average background concentrations of PM_{2.5} during operation, which already exceeds the NEPM reporting standard, as discussed above.</p> <p>Following on from consultation with NSW Ports, the warehousing included within the Amended Proposal is to operate 24 hours a day, 7 days a week (refer to Section 6 of this RtS). Further air quality impact assessment has been undertaken for the operation of this warehousing (refer to Section 7 and Appendix E of this RtS). The modelling results indicate that the operation of the Amended Proposal would result in no additional exceedances of the impact assessment criteria. Consistent with the EIS, annual average background concentrations of PM_{2.5} in the region already exceed the standard, therefore cumulative predictions are also above the standard at all receptors.</p>	<p>Section 9 and Appendix O of the EIS. Sections 6, 7 and Appendix E of this RtS.</p>
	<p>Retrofitting should be considered to curb emissions and more effort should be made to prevent emissions through better use of technologies.</p>	<p>Best practice measures were considered in Section 9.2.5 and Appendix O of the EIS) and assumed for the assessment where implementation was considered reasonable and feasible. Retrofitting after-treatment to existing locomotives was considered in Section 3.3 of the best Practice Air Quality Report (Appendix O of the EIS). These options were considered not feasible given the cost of potential emission reductions when compared to an incremental overhaul of locomotive fleet.</p>	<p>Section 9 and Appendix O of the EIS.</p> <p>Appendix K of this RtS.</p>
	<p>Emissions standards used in the EIS are old and have been superseded e.g. use of Euro III when Euro VI is available.</p>	<p>A discussion of emissions standards applied within the air quality assessment is included in Section 9 and Appendix O of the EIS.</p> <p>There are no current emissions standards in NSW or Australia for off-road vehicles. In the absence of any regulated emission performance, the selection of new equipment that meets the Euro Stage 111A / US EPA Tier 3 emission standards is considered reasonable and</p>	<p>Section 9 and Appendix O of the EIS.</p> <p>Appendix K of this RtS.</p>

Issue	Summary	Comments	Reference
		feasible best practice, in the context of current NSW practice, refer to the revised Best Practice Summary report provided in Appendix K of this RtS.	
	Pollution impacts from idling trains on the rail line waiting to access the warehouse	<p>Trains would interface with the Proposal through the IMT and would not directly access warehousing. Trains would generally be idling while being loaded and unloaded at the IMT.</p> <p>Anti-idling policies for both air and noise are included within management plans to be included as sub-plans in the OEMP.</p> <p>Further, an assessment of air quality impacts from idling locomotives has been included in Section 9.4 and Appendix O of the EIS. The assessment demonstrates that the operational phases of the Proposal (including emissions from idling trains) would comply with all relevant impact assessment criteria with the exception of the annual average background concentrations of PM_{2.5} during operation which already exceed the NEPM reporting standard.</p>	Section 9 and Appendix O of the EIS.
Assessment	Air quality monitoring should be undertaken in areas closer to the most adversely affected receivers	Locations representative of the residential areas of Wattle Grove, Moorebank, Casula and Glenfield were selected as these locations are consistent with those reported in the air quality assessments for the MPW Concept Approval and the MPE Stage 1 EIS. These location were identified in accordance with the NSW Environment Protection Authority (EPA) <i>Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i> .	Section 9 and Appendix O of the EIS.
	Use of annualised monitoring data would cover up high emission events	<p>The existing ambient air quality conditions used in the AQIA were based monitoring results from the Liverpool monitoring site operated by the OEH. This data was recorded by instruments that record continuously and therefore measure short-term peak concentrations. This type of monitoring is required because there are short term standards for NO₂ (1-hour) and PM (24-hour).</p>	Section 9 and Appendix O of the EIS.
	Annualised monitoring is inadequate to report on key air quality indicators. Provision, monitoring, reporting and action resulting from rolling 24 hour monitoring for air quality indicators	The modelling predictions presented in Section 9 and Appendix O of the EIS and the Amended Proposal assessment (Section 7 and Appendix E of this RtS), indicate that the risk of adverse air quality impacts from the Proposal are low. The incremental increase in key pollutants at the surrounding residential areas would be largely indistinguishable from the existing background and project specific air quality monitoring is therefore not considered necessary.	Section 7 and Appendix E of this RtS

Issue	Summary	Comments	Reference
	needs to be mandatory to reduce exposure.		
	The impact of diesel emissions on nearby schools have not been considered	<p>An assessment of air quality impacts from diesel emissions from the Proposal has been included in Section 9.4 and Appendix O of the EIS.</p> <p>The approach to the assessment follows guidelines recommended in the NSW Environment Protection Authority (EPA) <i>Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales</i> and included an assessment of key pollutants impacts (including those from diesel combustion) to surrounding sensitive receivers. These receivers included, but were not limited to, schools in the surrounding area.</p>	Section 9 and Appendix O of the EIS.
	The PM ₁₀ , PM _{2.5} and TSP emissions generated by the proposal should not be viewed by comparison with the existing, but assessed as the collective impact of proposal emissions and the background	<p>An assessment of air quality impacts from diesel emissions from the Proposal has been included in Section 9.4 and Appendix O of the EIS.</p> <p>The assessment includes a cumulative impact assessment which examined particulate emissions (PM₁₀, PM_{2.5} and TSP) from the operation of the Proposal in combination with the MPE Stage 1 operational emissions and the background. Results for the cumulative 24-hour average PM₁₀ and PM_{2.5} emissions excluded days where the background is already over the criteria.</p> <p>The modelling predictions presented in the report indicate that the risk of adverse air quality impacts from the Proposal are low. The incremental increase in key pollutants at the surrounding residential areas would be largely indistinguishable from the existing background.</p>	Section 9 and Appendix O of the EIS.
Particulate Matter	<p>What increases in PM₁₀ and PM_{2.5} will occur as a result of the project in the area surrounding the site?</p> <p>What increases will occur as a result of the combined projects?</p>	<p>Impacts to air quality in the area surrounding the Proposal, including impacts from particulate matter are detailed in Section 9 and Appendix O of the EIS. The assessment details impacts associated with the Proposal both incrementally and cumulatively with existing air quality and the MPE Stage 1 Project.</p> <p>As The predicted incremental increases to PM₁₀ and PM_{2.5} as a result of the Proposal are outlined in Section 9.4 of the EIS.</p>	Section 9 and Appendix O of the EIS.

Issue	Summary	Comments	Reference
		<p>For PM₁₀ at the most sensitive receivers are 1.0 µg/m³ for 24-hour maximum (this equates to less than 3% of the total cumulative), and 0.4 µg/m³ for the annual average (this equates to around 2% of the total cumulative). For PM_{2.5}, at the most sensitive receivers are 1.0 µg/m³ for 24-hour maximum (this equates to around 4.5% of the total cumulative), and 0.4 µg/m³ for the annual average (this equates to around 4.5% of the total cumulative).</p> <p>Predictive operational concentrations for PM_{2.5} and PM₁₀ are considered minor when compared to existing background conditions. In consideration of these values to background air conditions, no additional exceedances of the short term impact assessment criteria are recorded.</p>	
	<p>Will the increases in PM₁₀ and PM_{2.5} arising from the intermodal developments push the levels of PM₁₀ and PM_{2.5} (in any location) above the guidelines set by the World Health Organization?</p>	<p>The WHO guidelines for 24-hour average PM₁₀ and PM_{2.5} are the same as the NSW EPA's assessment criteria (50 µg/m³ and 25 µg/m³), therefore the conclusions from the AQIA remain the same when compared against the WHO guidelines (that is, the Proposal results in no additional exceedances).</p> <p>The WHO annual average guideline for PM_{2.5} (10 µg/m³) is higher than the EPA's impact assessment criteria (8 µg/m³) so although the Proposal exceeds the EPA's impact assessment criteria (because background is above 8 µg/m³) it would actually comply with the WHO guideline.</p> <p>The WHO annual average guideline for PM₁₀ (20 µg/m³) is lower than the EPA's impact assessment criteria (30 µg/m³, recently revised to 25 µg/m³). If assessed against this more stringent guideline, the operation of the Proposal would not result in an exceedance.</p>	<p>Sections 9, 10 and Appendix O and P of the EIS.</p>
Human health			
<p>Pollution / air quality</p>	<p>Concerns around emissions from vehicles, trucks and trains that are potentially carcinogenic</p>	<p>A Human Health Risk Assessment (HRA) was prepared in accordance with and included in Section 10 and Appendix P of the EIS.</p>	<p>Section 10 and Appendix P of the EIS.</p>

Issue	Summary	Comments	Reference
	Increased dust and pollution will affect people's health particularly young children	<p>The approach to this HRA was in accordance with approved Australian guidance for performing risk assessments, in particular:</p> <ul style="list-style-type: none"> • Health Impact Assessment – A Practical Guide - Centre for Health Equity Training, Research and Evaluation (CHETRE, 2007). 	Section 10 and Appendix P of the EIS.
	Impacts to air quality from the project would result in health impacts to nearby schools, childcare centres and homes	<ul style="list-style-type: none"> • Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risks from Environmental Hazards (enHealth, 2012). <p>The HRA investigated health hazards associated with fugitive dust and diesel emissions, arising from increased emissions of the following key air pollutants:</p>	Section 10 and Appendix P of the EIS.
	Concerns around air pollution and particulates (including diesel particulate matter) from the project resulting in various impacts to health including: Shortened life expectancy, increases outbreaks of <u>asthma</u> , cancer in newborns, lung cancer in children, <u>autoimmune</u> diseases, <u>bronchitis</u> , <u>coronary disease</u> , cardiovascular disease	<ul style="list-style-type: none"> • PM₁₀ and PM_{2.5} • Nitrogen oxides (in particular NO₂) • SO₂ • CO • Volatile organic compounds (VOCs). <p>One of the key health endpoints considered in the assessment was increased annual incidence of Emergency Department visits for children aged 0-14 resulting from the Proposal. The findings show no significant health impacts (measured as less than 1 case per year) would be expected for this endpoint in relation to PM₁₀, PM_{2.5} NO_x and SO_x (increased annual incidence is 0.06 or below).</p> <p>Cancer risks from air toxics generated by the Proposal was also assessed for residential/school receivers. The results in table 10-17 show air toxins generated are well below acceptable risk levels.</p> <p>The overall results of the HRA identified that the increase in risk due to air pollution from the operation of the Proposal are low or negligible.</p>	Section 10 and Appendix P of the EIS. Appendix K of this RtS.

Issue	Summary	Comments	Reference
	<p>Increased impacts to those suffering asthma and other respiratory conditions</p> <hr/> <p>Air quality in the Liverpool area basin will worsen with the introduction of an intermodal freight terminal and will create health problems for the community, particularly respiratory disease.</p>	<p>A Health Risk Assessment was undertaken and included in Section 10 and Appendix P of the EIS. The assessment considers the increased risk of certain health endpoints generated by the Proposal, including those related to Asthma and other respiratory conditions from key pollutants.</p> <p>The increased annual incidences of health endpoints evaluated due to PM (both PM₁₀ and PM_{2.5}) as a result of the Proposal emissions were well below one case per year, which is below the acceptable risk level established in Section 10.2.1 of this EIS (i.e. fewer than one increased case per year of premature mortality, hospital admissions, and emergency department visits associated with cardiovascular and respiratory diseases or asthma).</p>	<p>Section 10 and Appendix P of the EIS.</p>
<p>Sleep disturbance</p>	<p>Sleep disturbance from the Proposal resulting in impacts to human health</p>	<p>The HRA (Section 10 and Appendix P of the EIS) considered sleep disturbance impacts as a result of operation of the Proposal.</p> <p>The assessment identified that the noise from operation of the Proposal exceeds hazard quotients derived for operational noise at all key residential areas. Examination of total noise (refer to Table 10-21 of the EIS) shows there is no recorded recognisable difference between the existing ambient and total noise levels in each of the three noise catchments. This indicates that the Proposal would have little impact on the local area, and that the existing ambient noise is the major contributor to the total noise.</p>	<p>Section 10 and Appendix P of the EIS.</p>
<p>Assessment</p>	<p>Acceptability of the health assessment relies on reduction in pollution levels from wood heater compliance programs and improvements in vehicle emission standards</p>	<p>A HRA including an assessment of impacts from the Proposal has been prepared and is included in Section 10 and Appendix P of the EIS. The health risk assessment does not consider, assume or rely on emissions reductions from any source in making a judgement or assessment of risk. The assessment is therefore considered suitable for the Proposal.</p>	<p>Section 10 and Appendix P of the EIS.</p>

Issue	Summary	Comments	Reference
General	<p>Insufficient studies into the health effects of the project</p> <hr/> <p>General impacts to health and wellbeing of nearby residents</p> <hr/> <p>Impacts from stress</p> <hr/> <p>Impacts to mental health of residents</p> <hr/> <p>Impacts to health from the project are unacceptable</p>	<p>As outlined in the responses above, a Human Health Risk Assessment (HRA) was prepared in accordance with and included in Section 10 and Appendix P of the EIS.</p> <p>The approach to this HRA was in accordance with approved Australian guidance for performing risk assessments, in particular:</p> <ul style="list-style-type: none"> • Health Impact Assessment – A Practical Guide - Centre for Health Equity Training, Research and Evaluation (CHETRE, 2007). • Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risks from Environmental Hazards (enHealth, 2012). <p>The HRA focussed on the health impacts to key residential and sensitive locations within the vicinity of the Proposal (refer to Section 9.3.1 of this EIS) incurred from emissions generated by the operational phase of the Proposal, including the IMT facility and warehousing. This assessment was based on the <i>Health Impact Assessment</i> (HIA – Technical Paper 16) and <i>Human Health Risk Assessment</i> (HHRA – Technical Paper 15), prepared by Environmental Risk Services (EnRisks, 2014) for the MPW Concept EIS. These assessments provide analysis of the demographic and socioeconomic context of the Proposal site, combined with considerations of key stakeholders, including community members with regard to health concerns and outcomes associated with the Proposal.</p> <p>The overall results of the HRA identified that the increase in risk due to air pollution from the operation of the Proposal are low or negligible.</p>	<p>Section 10 and Appendix P of the EIS.</p> <p>Technical Paper 15 and 16 for the MPW Concept EIS</p>
Effects of particulate matter	<p>What health effects are likely to occur in the local population resulting from increases in PM₁₀ and PM_{2.5} levels associated with the Intermodals?</p>	<p>A Human Health Risk Assessment (HRA) including an assessment of health impacts to residents in nearby suburbs is included in Section 10 and Appendix P of the EIS.</p> <p>Based on the estimated increased annual incidence for multiple health endpoints contributing to mortality and morbidity for the Proposal, there are no significant adverse health effects</p>	<p>Section 10 and Appendix P of the EIS.</p>

Issue	Summary	Comments	Reference
	Impacts to health from PM2.5 in diesel fumes generated by truck and train movements	<p>expected in relation to short-term and long-term exposure to PM₁₀ and PM_{2.5} in the surrounding local area from the Proposal.</p> <p>The cumulative assessment (the Proposal and MPE Stage 1) identified that the combined incremental impacts to community health from PM_{2.5} and PM₁₀ are generally low and within regulatory guidelines. The increased annual incidences for the health endpoints evaluated due to the cumulative Proposal related to PM₁₀ and PM_{2.5} exposures were all well below one case per year.</p>	

Biodiversity

General	Concerns for flora and fauna removed from the site	<p>The Biodiversity Assessment Report (BAR) provided in Appendix Q and summarised in Section 11 of the EIS, and the Updated BAR (Appendix G of this RtS), includes an assessment of the impacts of the Amended Proposal on flora and fauna, including threatened and endangered species and habitat. The Proposal would result in the following biodiversity impacts:</p>	Section 11 and Appendix Q of the EIS.
	Project would impact on native flora and fauna and destroy habitat for local species	<ul style="list-style-type: none"> • Impacts to three plant communities and three threatened flora populations. • Loss of specific fauna habitat components, including live trees, tree hollows, foraging resources, ground layer habitats such as ground timber and well-developed leaf litter. • Removal of 43 hollow bearing trees. • Impacts to habitat connectivity in the riparian corridor of the Georges River. • Potential weed spread. 	Section 7 and Appendix G of this RtS.
	The destruction of bushland and impacts to surrounding habitat would increase likelihood of animal illness		
	Impacts to natural bushland		
	Impacts to endangered species	<p>The EIS proposes a number of mitigation measures which are considered to be sufficient to appropriately manage the impacts to biodiversity resulting from the Proposal.</p> <p>A comprehensive Biodiversity Offset Package for the MPW Project is required to be prepared and implemented under the MPW Concept Approval (SSD 5066 Condition D17). The BOP will be prepared with the objective of offsetting all biodiversity impacts required to be offset under the FBA, within the Moorebank Precinct (comprising the MPW site and the MPE site), including the loss of threatened ecological communities, threatened flora and threatened</p>	

Issue	Summary	Comments	Reference
		fauna habitat in accordance with the NSW Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014). This BOP would be subject to DP&E approval.	
	Project would impact on local fruit bat population	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS included an assessment of impacts on native species including the Grey-headed Flying Fox (fruit bat).</p> <p>No Grey-headed Flying Fox breeding or roosting habitat is located within the construction and operational footprint of the Proposal. However, some areas may provide potential foraging habitat. Winter-flowering trees would be preferentially planted in landscaped areas of the Proposal site to provide a winter foraging resource for migratory and nomadic nectar-feeding birds and the Grey-headed Flying fox.</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of the RtS.</p>
	Impacts from removal of riparian vegetation adjacent to the Georges River	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS included an assessment of the impacts associated with vegetation removal for the Proposal.</p> <p>The Proposal would result in impacts to riparian vegetation resulting from clearance for construction of three stormwater basin outlets within the Georges River riparian zone. A number of measures have been incorporated in the Proposal to minimise impacts to riparian vegetation, including:</p> <ul style="list-style-type: none"> • Basin outlets have been designed to incorporate features to facilitate fauna passage and outlets will be revegetated as far as is practicable while still maintaining functional flows. • The majority of the Georges River riparian corridor will be incorporated within the proposed offset areas, which through restoration and management will be intended to improve habitat quality within this corridor and further consolidate the connectivity values. <p>The Proposal Amendment, as a response to the impact identified, has reduced the width of selected channels to minimise the amount of required vegetation clearance. An Updated BAR has been provided at Appendix G of this RtS.</p> <p>In addition to this, the amendment to the Proposal include the installation of a drain within an area of the conservation area that has been previously cleared. This area is currently used as an easement for Endeavour Energy. This covered drain would require clearance of 0.07 ha of</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of the RtS.</p>

Issue	Summary	Comments	Reference
		<p>native vegetation (River-flat Eucalypt Forest on Coastal Floodplains EEC). The drain would be relatively narrow and would not result in additional impacts to fauna connectivity.</p> <p>A comprehensive Biodiversity Offset Package for the MPW Project is required to be prepared and implemented under the MPW Concept Approval (SSD 5066 Condition D17). The BOP will be prepared with the objective of offsetting all biodiversity impacts required to be offset under the FBA, within the Moorebank Precinct (comprising the MPW site and the MPE site), including the loss of threatened ecological communities, threatened flora and threatened fauna habitat in accordance with the NSW Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014). This BOP would be subject to DP&E approval.</p>	
	<p>Increased wildlife strikes from more trains/trucks</p>	<p>During operation of the Proposal, operating equipment and the movement of trucks and trains in and out of the facility could increase fauna injury or mortality. While some highly mobile species, such as birds, can move away from moving vehicles and trains, other species that are less mobile and/or nocturnal may have difficulty reacting and moving from potential impact. Both threatened and non-threatened species of microchiropteran bats, arboreal mammals, nestling birds, frogs and reptiles would be at risk of injury or mortality. Controls such as fencing would be put in place to keep land-based fauna away from the operating terminals, and would be designed to minimise collision by birds and bats.</p>	<p>Section 8 of this RtS</p>
	<p>No insect control methods for use in detention basins have been proposed</p>	<p>The presence of undesirable species would be identified as part of the fauna monitoring for the Proposal. Upon identification, management strategies would be developed in cooperation with government bodies, interest groups and adjacent landowners including the NSW Department of Primary Industries and OEH</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of this RtS.</p>

Issue	Summary	Comments	Reference
Vegetation management	Project would require land clearing	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS includes an assessment of vegetation clearance required for the Proposal. An Updated BAR has been provided at Appendix G of this RtS.</p> <p>Vegetation loss is avoided or minimised where possible. The unavoidable impacts caused by vegetation loss would be offset through the BOP, prepared in accordance with the NSW Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014).</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of the RtS.</p>
	Further vegetation clearance required to manage bushfire	<p>An assessment of the Proposal against the provisions of Planning for Bushfire Protection 2006 (NSW Rural Fire Service) is included in Section 20.2 and Appendix W of the EIS.</p> <p>The Proposal must provide adequate separation between the fixed assets and the bushfire prone vegetation and defensible spaces. The bushfire assessment confirms that the current design of the Proposal would comply with relevant objectives of Planning for Bushfire Protection 2006 and further vegetation clearance for bushfire protection would not be required.</p> <p>Ongoing management and maintenance of bushfire protection measures would occur within previously managed areas and would not require additional vegetation clearance.</p>	Section 20.2 and Appendix W of the EIS
Impacts to Native species	Impacts to Bellbirds on the Casula side of Georges River	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS includes an assessment of impacts to native species.</p> <p>Riparian vegetation on the Casula side of the Georges River provides potential habitat for native bird species, including bellbirds. The Proposal would not result in direct impacts to this vegetation.</p> <p>Bellbirds are adapted to suburban and disturbed areas. Given the distance to the Proposal and relatively minor indirect impacts (eg noise, light) to the western side of the Georges River Bellbirds are not anticipated to be directly or indirectly affected.</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of this RtS.</p>

Issue	Summary	Comments	Reference
	Impacts on native species from pollution	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS includes an assessment of impacts to native species.</p> <p>Air quality impacts during operation of the Proposal would mainly be generated by material handling (dust and particulates) from diesel powered vehicles around the site. Modelling predictions indicate that the incremental increase in key pollutants (PM₁₀ and PM_{2.5}) at the surrounding areas would be largely indistinguishable from the existing background levels (refer to Section 9 of this EIS). As such, a pollution impact on native species from the Proposal is not anticipated.</p>	Section 11 and Appendix Q of the EIS.
	Impacts on bird and possum species	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS includes an assessment of impacts to native species including birds and possums. Refer also to the Updated BAR in Appendix G and biodiversity assessment included in Section 7 of this RtS.</p> <p>Vegetation clearance required for the Amended Proposal has the potential to result in impacts to native species such as loss of feeding, loss of breeding and roosting habitat and direct mortality.</p> <p>A number of mitigation measures have been included in the EIS to manage or offset impacts to native species, including:</p> <ul style="list-style-type: none"> • Preparation of a biodiversity offset strategy to offset impacts to habitat. • Staged habitat removal and pre-clearing surveys to avoid direct fauna mortality. • Relocation of fauna to adjacent retained habitat. 	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of this RtS.</p>
	Impacts to the local Koala population.	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS provides an assessment of potential impacts to Koalas. Refer also to the Updated BAR in Appendix G and biodiversity assessment included in Section 7 of this RtS.</p> <p>The Proposal site contains some potential Koala habitat where Koala feed trees including primary feed trees <i>E. parramattensis</i> and <i>E. tereticornis</i> and secondary feed trees <i>E. baueriana</i> (recorded in small densities) are present.</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of this RtS.</p>

Issue	Summary	Comments	Reference
		<p>Targeted surveys including call playback and spotlighting did not identify any individuals in the area and consequently the assessment concluded that Koalas are unlikely to be present. As such, the Amended Proposal is not anticipated to have an impact on Koala populations.</p>	
	<p>Impacts from removal of 43 hollow bearing trees</p>	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS provides an assessment of potential impacts to fauna from loss of potential habitat. Refer also to the Updated BAR in Appendix G and biodiversity assessment included in Section 7 of this RtS.</p> <p>The clearing of vegetation will result in the loss of specific fauna habitat components, including live trees, tree hollows foraging resources, groundlayer habitats such as ground timber and well-developed leaf litter. These resources offer sheltering, foraging, nesting and roosting habitat to a variety of fauna, including threatened fauna, occurring within the locality. The Amended Proposal will require removal of approximately 43 hollow-bearing trees.</p> <p>A number of mitigation measures have been identified (Section 22 of the EIS) to manage this impact. These include:</p> <ul style="list-style-type: none"> • A staged habitat removal process would be developed and would include the identification and marking of all habitat trees in the area. • Where reasonable and feasible, clearing of hollow bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow dependent birds in the locality are also unlikely to be breeding. • Pre-clearing surveys would be conducted 12 to 48 hours before vegetation clearing to search for native wildlife (e.g. reptiles, frogs, Cumberland Land Snail) including those within removed hollows, that can be captured and relocated to the retained riparian vegetation of the Georges River corridor. <p>Vegetation would be cleared from a 10 m radius around habitat trees to encourage animals roosting in hollows to leave the tree. A minimum 48 hour waiting period would allow animals to leave.</p>	<p>Section 11 and Appendix Q of the EIS.</p> <p>Section 7 and Appendix G of this RtS.</p>

Issue	Summary	Comments	Reference
Other issues			
General Environment	The Project would contribute to the Urban heat island effect	<p>Urban Heat Islands (UHI) refer to the phenomena whereby urban regions experience warmer temperatures than their rural surroundings. UHI comprise two key forms; namely surface UHI and atmospheric UHI.</p> <p>An increase in impervious surfaces and reduction in vegetation cover has the potential to result in an increase in surface UHI. Surface UHI is typically worst during daytime hours and in summer. The Proposal would result in an increase in impervious areas and would therefore have the potential to result in surface UHI. A landscape plan has been prepared for the Proposal and is presented in Appendix E of the EIS, which outlines the proposed strategy for retaining vegetation and revegetating areas to the greatest extent possible. Further, a conservation area will be retained to the west of the Proposal site minimising the potential for the Proposal to result in surface UHI, however some surface UHI may be experience (particularly during summer months).</p> <p>Atmospheric UHI is typically a result of high density urban development (with buildings located closely to one another), as well as from waste heat from energy consumption. The warehouse layout provided for the Proposal allows for a low-moderate density industrial use. Further, warehouses have a substantially lower energy demand per square metre than residential or commercial buildings. Machinery and equipment would have a power requirement; however this would be substantially lower than that of the building power demand. The potential for the Proposal to contribute to atmospheric UHI is therefore considered to be low.</p> <p>The extent of UHI is largely dependent of weather conditions and geographic location. The average wind speed and infrequency of calm wind conditions at the Proposal site - occurring approximately 12% of the time (refer Appendix O of the EIS) - would enhance wind dissipation of UHI effects. Further, the proximity of Georges River and large vegetated areas (to the south and east of the Proposal site) will minimise UHI occurring within the area. The potential UHI effects from the Proposal are therefore considered to be minor.</p>	<p>Appendix E of the EIS</p> <p>Appendix O of the EIS</p>

Issue	Summary	Comments	Reference
Hours of operation	24/7 (including night and weekend) operations are unacceptable	<p>The EIS assessed the impact of 24/7 operations for the IMT and concluded that the impacts (air and noise) would be manageable with implementation of mitigation measures including restricted working activities during out of hours works periods.</p> <p>24/7 operations for warehousing as described within Section 6 of this RtS, has been assessed for both noise and air quality impacts against relevant criteria (refer to Section 7 of this RtS).</p> <p>The air quality modelling results indicate that the operation of the Amended Proposal would result in no additional exceedances of the impact assessment criteria. The noise assessment for the Amended Proposal identifies compliance with the established intrusiveness and amenity criteria with the exception of the most affected receivers in Casula under adverse meteorological conditions, during the night time period, with an exceedance of intrusive criteria up to 1 dBA. This assessment is consistent with the assessment within the EIS. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated.</p>	<p>Sections 9, 10 and Appendix M and N of the EIS.</p> <p>Sections 6,7 and Appendix D and E of this RtS.</p>
	Object to the change to in working hours to allow pre-construction stockpiling. This task should be completed by bringing in more staff and equipment.	<p>Sections 7-20 of the EIS provide an assessment, from all relevant environmental aspects, of the proposed out of hours works for the importation of fill during the construction of the Proposal. Outside of hours works are considered necessary for trucks to avoid peak hour movements and to spread the number of vehicles more evenly throughout the construction period (on a daily basis). The potential noise and air impacts of these outside of hours works are to be managed through the implementation of mitigation measures.</p> <p>Bringing additional staff onto site within standard work hours is likely to result in an increase in traffic movements (staff trips to site). The use of additional equipment may also increase the noise and air emissions during the construction period. Overall, the construction methodology to be implemented for the Proposal is considered the most suitable method of importing fill for construction while considering and responding to the potential environmental impacts.</p>	Sections 7-20 of the EIS.
Georges River/Waterways impacts	Clearing of land will increase the vulnerability of the area to flooding	An assessment of the impacts of the Proposal on flooding is included in Section 12.4 of the EIS.	Section 12.4 and Appendix R of the EIS.

Issue	Summary	Comments	Reference
		<p>During construction, the risk of an increase to regional flooding for a storm event up to the 100 year Average Recurrence Interval or Probably Maximum Flood event is considered negligible for all construction works outside of the Georges River riparian corridor.</p> <p>During operation, the Proposal would result in either minor or negligible flood impacts (up to 0.01 metres), which is considered acceptable without further flood mitigation. Model results affirm that potential adverse flood impacts along the Georges River have been mitigated by limiting the Proposal site raising to areas above the 1% annual exceedance probability.</p>	
	<p>The project is in close proximity to the Georges River which may result in contamination from accidental spillage of chemicals and waste and runoff impacts from the Proposal</p>	<p>A Stormwater and Flooding assessment is provided in Section 12 and Appendix R of the EIS, which considers control of surface runoff into the Georges River. A Hazard and Risk Assessment is provided in Section 14 of the EIS, which assesses the risk presented by the Proposal in relation to spills waste and chemicals impacts to the site and Georges River.</p> <p>During construction, small volumes of fuels and chemicals would be stored on the Proposal site for use by machinery and equipment which may spill in the absence of appropriate mitigation. The operation of the Proposal would require the storage of numerous potentially hazardous materials onsite (refer to Table 14-5 of the EIS). Spills and loss of containment of flammable/combustible or corrosive liquids (including toxic and hazardous substances) is considered a key hazard to be considered in formulating management controls. Potential on-site methods of release are shown in Table 14-6 of the EIS.</p> <p>All dangerous goods would be stored in locations and quantities below the risk levels under State Environmental Planning Policy No. 33 – Hazardous and Offensive Development and Applying SEPP 33 (DoP 2011). Mitigation measures to minimise the risk of accidental spillage of materials hazardous or toxic to the environment (including the nearby Georges River) would combine both Erosion and Sediment Control measures (which would be in accordance with Blue Book Guidelines), and hazard risk mitigation. Mitigation measures for both Stormwater and Flooding, and Hazards and Risk are presented in Sections 12.5 and 14.5 of the EIS.</p> <p>In addition to these measures, the OEMP would include an Emergency Response Plan (ERP), including a Pollution Incident Response Management Plan (PIRMP), and a refuelling procedure that would specify procedures to follow in the event of a spill and refuelling, to prevent contamination.</p>	<p>Section 12, Section 14 and Appendix R of the EIS.</p>

Issue	Summary	Comments	Reference
	<p>Concerns that the project will impact on efforts to restore the Georges River</p>	<p>An assessment of stormwater and flooding impacts including potential impacts to the Georges River is included in Section 12 and Appendix R of the EIS. The EIS concluded that impacts to the water quality of Georges River would be appropriately managed with the implementation of mitigation measures,</p> <p>Further, the Proposal includes a conservation area on the eastern bank of the Georges River which would be provided for the ongoing conservation of flora and fauna (refer to Section 11 and Appendix Q of this EIS).</p> <p>This conservation area is to form part of a biodiversity offset area in the Biodiversity Offset Package, required to be prepared under Condition D17 of the MPW Concept Approval (SSD 5066). A number of regeneration activities are to be undertaken in this conservation area under a Biodiversity Offset Strategy (BOS) to further improve the biodiversity value of the eastern bank of the Georges River.</p> <p>Overall, the Proposal (and the MPW Concept Approval) would support the ongoing efforts of restoration of the Georges River.</p>	<p>Sections 11, 12 and Appendices Q and R of this EIS.</p>
<p>Aboriginal Heritage</p>	<p>Object to the involvement of the GLAC Gandangara (Local Aboriginal Council) and the Thurawal Local Aboriginal Land Council as they did not have indigenous heritage officers during their involvement.</p>	<p>Consultation with Aboriginal representatives began in 2010 when Aboriginal parties were invited to register an interest in the MPW Project through public notice and through direct invitation.</p> <p>Aboriginal consultation for the Proposal built on consultation undertaken for the MPW Concept EIS. All Aboriginal consultation for the Proposal has been undertaken in accordance with relevant OEH Guidelines. Both the Gandangara Local Aboriginal Land Council and Thurawal Local Aboriginal Land Council were in attendance at the additional site visit (1 July 2016) for the Proposal (refer to Section 6 of the EIS).</p>	<p>Section 6.4.1 of the EIS</p>
<p>European Heritage</p>	<p>The project would impact on items of significant European heritage (to Moorebank and the national identity) including Kitchener's House, Casula Station and</p>	<p>A number of heritage items are to be salvaged on the MPW site as part of the MPW Early Works (under the MPW Concept Approval (SSD 5066)). The Stratch Hangar, Cust Hut and Dog Cemetery are to be salvaged and managed as part of the MPW Early Works. The items would therefore be salvaged under a separate approval and not be impacted by the Proposal.</p>	<p>Section 17 and Appendix V of the EIS</p>

Issue	Summary	Comments	Reference
	<p>footbridge, Casula viaduct, The Strach and Cust buildings and the Dog Cemetery</p>	<p>A Non-Indigenous Heritage Impact Assessment was prepared for the impact of the Proposal on Non-Aboriginal heritage (refer to Section 17 and Appendix V of the EIS). The assessment identified one on-site item (the Moorebank Cultural Landscape) and three surrounding items (Kitchener House, Glenfield Farm and Casula Power Station) that would potentially be impacted by the Proposal. No direct impacts during construction or operation are anticipated at the surrounding items, however, there is the potential for indirect impacts (e.g. noise and visual impacts). Kitchener House in particular has the potential to be indirectly impacted by vibration if plant and equipment are operated in close proximity to the building.</p> <p>Themes and stories forming the Moorebank Cultural Landscape are assessed in Section 17.3, and would be preserved in consultation with local heritage groups and Defence through a Heritage Interpretation Strategy (precinct wide) that would include the MPW site.</p> <p>A revised vibration assessment and mitigation strategy during construction to protect structural conservation of Kitchener House is provided in the Noise and Vibration Addendum at Appendix D of this RtS.</p> <p>A number of mitigation measures are provided in Section 17 of the EIS, and also included in Section 8 of this RtS to manage impacts and to preserve (in essence) any heritage of the Proposal site. Casula Station and footbridge and the Casula viaduct would not be impacted by the Proposal.</p>	<p>Section 8 of this RtS.</p>
<p>Bushfire</p>	<p>The southern areas of the site have the potential to increase the bushfire threat</p> <hr/> <p>Risk of bushfire ignition from trains creating sparks</p>	<p>An assessment of the Proposal's impact on Bushfire is summarised in Section 20.2 and Appendix W of the EIS.</p> <p>Construction and operation of the Proposal have the potential to result in an increased bushfire risk through introduction of ignition sources such as sparks given off by rail cars. The EIS determined that with the implementation of mitigation measures the bushfire risk from the Proposal would be low. Measures to manage bushfire risk include:</p> <ul style="list-style-type: none"> • Locating electricity services to limit the possibility of ignition to surrounding bushland or the fabric of the buildings (e.g. underground). • Location gas services to avoid ignition of sounding bushland or fabric of buildings. 	<p>Section 20.2 and Appendix W of the EIS.</p>

Issue	Summary	Comments	Reference
		<ul style="list-style-type: none"> Maintaining the width of the rail link connection in a low fuel state, with protocols developed for the monitoring of train access/egress during high – catastrophic fire weather days. 	
	The project would limit fast and safe access for emergency vehicles in bushfire situations	<p>An assessment of the Proposal’s impact on bushfire is summarised in Section 20.2 and Appendix W of the EIS.</p> <p>The bushfire assessment identified that the operation of the Proposal is consistent with the objectives of Planning for Bushfire Protection 2006 and provides safe operational access and egress for emergency services personnel and residents.</p>	Section 20.2 and Appendix W of the EIS.
Light Pollution	<p>Lighting from 24/7 operations has the potential to impact on nearby residents</p> <hr/> <p>Lighting may impact on flora and fauna including threatened species</p> <hr/> <p>Floodlighting is scheduled until 11pm</p> <hr/> <p>Lighting may impact the breeding patterns of native mammals</p> <hr/> <p>Use of metal Halide lights will contribute to 'sky glow' and lighting impacts to residents and flora and fauna</p>	<p>An assessment of the impacts of lighting from the Proposal is included in Section 15 and Appendix T of the EIS.</p> <p>Lighting would be required during construction of the Proposal within ancillary facilities, and on plant and equipment. Lighting during construction of the Proposal would be utilised as required between construction hours, the longest duration of which, is during the pre-construction stockpiling, bulk earthworks works period, until 10pm on weekdays. The impacts of light spill during construction are expected to be minor as it would be localised and temporary in nature. In addition, this lighting would be designed and located to minimise the effects of light spill on surrounding sensitive receivers, including residential areas and the proposed conservation area.</p> <p>During operation, the assessment indicates that minimal effect on adjacent properties and on the environment would be achieved by the appropriate selection of light source, luminaire, luminaire mounting height and luminaire aiming.</p> <p>Potential biodiversity impacts generated by lighting from Proposal operations are considered within Section 11 of the EIS. The impacts are assessed to be similar to those identified and assessed in the MPW Concept EIS, which has been approved (SSD 5066).</p> <p>The Amended Proposal includes 24 hour warehousing to enable operational efficiencies on the site consistent with IMT operations, and backlit illuminated corporate signage for warehouses (refer to Section 6 and Section 7 of this RtS). A Visual Impact Addendum and revised Biodiversity Assessment Report (BAR) has been included as Appendix I and G</p>	<p>Sections 11, 15 and Appendix Q and T of the EIS.</p> <p>Section 6, Section 7 and Appendix I of this RtS</p>

Issue	Summary	Comments	Reference
		<p>respectively of this RtS. Both assessments conclude that the amendments to the Proposal, including illuminated backlit signage and extended warehousing hours, would not impose any additional impacts to nearby residents from a visual impact or biodiversity perspective over and above those assessed and managed under the EIS.</p>	
Visual	Impacts to views from walking tracks of Leacocks Lane	<p>An assessment of the visual impacts of the Proposal is included in Section 15 and Appendix Q of the EIS.</p> <p>During construction, the Proposal would have low to moderate impact to views from the Leacocks Regional Park with some items such as cranes and piling rigs, hoardings and fencing likely to be visible. However, given the low rise nature of the construction works and the maximum visual impact rating of moderate at any view point, it is unlikely that these works would be overly intrusive and that any visual impacts would be localised and temporary in nature.</p> <p>During operation, the Proposal would have low to moderate impacts to views from Leacocks Regional Park. The Proposal would be in keeping with the surrounding land uses and any impacts would be effectively minimised through the use of landscaping and urban design. The proposed landscape and built form treatments would result in an improvement in the visual amenity of the entire site and would increase the current level of screening of the site. Urban design and planning principles assist with the breakdown of the bulk and scale of the development and contribute to the creation of one cohesive landscape.</p>	Section 15 and Appendix Q of the EIS.
Contamination	Contamination impacts from fumigation of containers with chemicals such as Methyl Bromide	<p>During operation, fumigation may be required for targeted products or for products. The Amended Proposal (refer to Section 6 and Section 7 of this RtS) includes an area for de-gassing of containers, which would be provided adjacent to the IMT. The proposed de-gassing system will include fan forced ventilation for container residual gas extraction and collection. Where fumigation is required, a recapture system will be used to collect and treat residual gas emissions. The proposed de-gassing and recapture system for fumigation will use carbon filtration to control emissions of methyl bromide. All fumigation and container cleaning would be undertaken in accordance with relevant legislation and Department of Agriculture and Water Resources and NSW Environment Protection Authority guidelines.</p>	Sections 6, 7 and Appendix E of this RtS

Issue	Summary	Comments	Reference
		As fugitive emissions from de-gassing and fumigation are not expected, no further quantitative assessment was undertaken in the RtS.	
	Disturbance of existing PFAS contamination from fire fighting activities	<p>An assessment of contamination risks on the Proposal site, including PFAS contamination, is included in Section 13.3 and Appendix S of the EIS.</p> <p>During construction, the Proposal will have the potential to release and/or expose existing sources of contamination into the surrounding environment through disturbance of soils and groundwater. This remediation is to be managed in consideration of the proposed CEMP and previously prepared documents for the MPW site including:</p> <ul style="list-style-type: none"> • The Preliminary Remediation Action Plan (PB, 2014a) • The Validation Plan – Principles (Golder, 2015b) • The Demolition and Remediation Specification (Golder 2015c) • Any other contamination documentation prepared for the remediation activities undertaken for MPW Early Works (Stage 1). <p>The Proposal site would be remediated during construction to a level that is considered suitable for the operation of the Proposal. As a result, there would be a low risk to workers or the environment from contaminated soil and groundwater during operation of the Proposal.</p> <p>The existing groundwater monitoring undertaken for the Proposal would continue. The main purpose of the Groundwater Monitoring Plan would be to assist in the management of groundwater contamination (particularly PFAS impacts) at the Proposal site, and to minimise potential harm to human health and the environment (refer to Section 22 of the EIS and Section 8 of this RtS).</p>	<p>Sections 13.3, 22 and Appendix S of the EIS.</p> <p>Section 8 of this RtS.</p>
	Appendix I - REMM 8R on page 25, should the survey of asbestos be clarified and widened to include "samples of all asbestos identified"	<p>Surveying and removal of asbestos from the Proposal site would be undertaken in accordance with an Asbestos in Soils Management Plan to be prepared as part of the CEMP for the Proposal (refer to Section 13 and Appendix S of the EIS).</p> <p>Samples taken in performance of REMM 8R would be for the purposes of validation / certification of remediation activities and as such would be undertaken on appropriate soil</p>	Section 13 and Appendix S of the EIS.

Issue	Summary	Comments	Reference
	<p>areas” and “selected soil samples?”</p>	<p>samples considered to be potentially contaminated with asbestos to validate the contamination has been removed and classify the material.</p> <p>Any asbestos identified during construction would be managed through the unexpected finds protocol set out within the CEMP.</p>	
	<p>Is site handover conditional of the findings from more extensive PFAS/PFOA testing? If not, what testing regime is intended to be conducted to assess groundwater ingress of these pollutants? An independent survey should be undertaken to confirm presence and distribution, and permit to enacting of pollutant removal from the site.</p>	<p>Testing of the Proposal site for contamination (including PFAS) has been undertaken in the past and has been identified in Section 13 and Appendix S of the EIS.</p> <p>The current groundwater monitoring undertaken for the Proposal would continue throughout the construction and operation of the Proposal. The main purpose of the Groundwater Monitoring Plan would be to assist in the management of groundwater contamination (particularly PFAS impacts) at the Proposal site, and to minimise potential harm to human health and the environment.</p>	<p>Section 13 and Appendix S of the EIS.</p>
<p>Planning process</p>			
<p>Approvals</p>	<p>The Proposal should not be approved due to the potential impacts to the surrounding environment</p>	<p>An EIS (in accordance with Part 4, Division 4.1 of EP&A Act and the SEARs (SSD 7709) for the Proposal) has been prepared to assess the impacts on the Proposal on the surrounding environment.</p> <p>The findings in the EIS are supported by specialist reports specific to each of the key issues identified within the SEARs.</p> <p>The EIS concludes that no significant environmental impacts would result from the construction and/or operation of the Proposal. The EIS includes a number of mitigation measures, to further reduce the overall environmental impacts, which would be implemented for the construction and operation of the Proposal (refer to Section 22 of the EIS).</p>	<p>Section 22 of the EIS.</p> <p>Sections 6, 7 and 8 of this RtS</p>

Issue	Summary	Comments	Reference
		These mitigation measures have also been updated to address the potential environmental impacts from the Amended Proposal (refer to Sections 6,7 and 8 of this RtS).	
	The approvals process has not been undertaken correctly and is not transparent.	<p>SIMTA has followed the approval pathway designated under Part 4, Division 4.1 of the EP&A Act.</p> <p>Section 6 of the EIS outlines the consultation undertaken to date for the Proposal. Consultation has been undertaken throughout the preparation of the Concept Application (and approval) and during the preparation of the EIS for this Proposal, in accordance with the SEARs. Throughout the preparation of the EIS, SIMTA has consulted with statutory agencies and stakeholders (including the community) through a range of mediums including emails, phone conversations, face-to-face meetings and letter submissions.</p> <p>Feedback provided from stakeholders and the community has assisted with design refinement, robust approaches to impact assessment and associated mitigation measures of the Proposal documented in this EIS.</p> <p>Consultation will continue as an integral component of the Proposal's development process to ensure transparency in the approvals process and the views of stakeholders and the community are clearly understood and considered to the extent practicable.</p>	Section 6 of the EIS.
	A proper EIS has not been undertaken	The EIS has been prepared by suitably qualified professionals and presents a balanced environmental impact assessment, developed in accordance with the EP&A Act, the SEARs (SSD 7709) issued for the Proposal and applicable Commonwealth, State and local legislation, plans and policies (refer to Section 5 of the EIS).	Section 5 of the EIS.
	Release of EIS at Easter when residents were potentially away	<p>Section 6 of the EIS noted that all stakeholders listed in the SEARs have been consulted. SIMTA has consulted with statutory agencies and stakeholders (including the community) through a range of mediums including emails, phone conversations, face-to-face meetings and letter submissions.</p> <p>The EIS was placed on exhibition between 26 October 2016 and 25 November 2016. This exhibition period is not within Easter or any other school holiday period. All stakeholders were</p>	Section 6 of the EIS.

Issue	Summary	Comments	Reference
		<p>given a suitable timeframe to provide feedback on the Proposal prior to exhibition of the EIS. Feedback received has been documented in the EIS.</p>	
	<p>The approvals process and split development at the site leading to confusion</p>	<p>As discussed in Section 1.4.4 of the EIS, SIMTA and MIC have recently entered into an agreement to develop the MPW site for the purposes of an IMT facility. The MPW IMT facility (approved under MPW Concept Approval SSD 5066, and Proposal (the subject of this RtS)) forms part of the greater Moorebank Precinct, which also includes the MPE IMT (approved under the MPE Concept Plan Approval (MP 10_0193) and the MPE Stage 1 Approval (SSD 14-6766)).</p> <p>As can be identified from the above, prior to this agreement, between SIMTA and MIC, separate approvals were undertaken for the eastern and western parts of what is now referred to as the Moorebank Precinct. SIMTA is now responsible for delivery of the Moorebank Precinct and, in consultation with MIC, has undertaken a 'whole of precinct' approach to the preparation of approvals documentation. This ensures that each EIS considers the impacts of the neighbouring development. This whole of precinct approval has been undertaken to reduce confusion and provide transparency to stakeholders (both the community and government agencies).</p>	
<p>Combined project</p>	<p>The EIS should be completed for all projects at once</p>	<p>The MPW Project and MPE Project are subject to separate planning approvals as a result of their timing and also that these were, until recently, managed by separate companies. More recently SIMTA and MIC have entered into an agreement to develop the MPW site for the purposes of an IMT facility. Notwithstanding this, separate Concept Approvals remain and therefore separate planning approvals documentation is required by the EP&A Act.</p>	<p>Sections 5, 19 and 22 of the EIS. Section 8 of this RtS.</p>
	<p>The combined impact of both intermodals has not been sufficiently assessed</p>	<p>The MPW Project approvals documentation, provided a cumulative assessment for the impact of the MPW Project and the MPE Project, based on information available at that time. This impact assessment was approved by DP&E and considered suitable to form the framework for future staged approvals under the MPW Concept Approval (SSD 5066).</p> <p>The Proposal represents the second stage of development under the MPW Concept Approval. The EIS provides a detailed environmental impact assessment, developed in accordance with</p>	<p>Sections 5, 19 and 22 of the EIS. Section 8 of this RtS.</p>

Issue	Summary	Comments	Reference
		<p>the EP&A Act, the SEARs (SSD 7709) issued for the Proposal and applicable Commonwealth, State and local legislation, plans and policies (Refer to Section 5 of the EIS).</p> <p>Further the EIS also includes a cumulative assessment of the Proposal and the most recent approval under the MPE Project (the MPE Stage 1 Approval (SSD 14_6766) (refer to Section 19 of the EIS). The EIS concludes that the mitigation measures identified for the Proposal would also effectively mitigate the cumulative impact of these proposals (refer to Section 22 of the EIS and Section 8 of this RtS).</p>	
<p>Environmental Management Documents</p>	<p>Will the CEMP be publicly available?</p> <hr/> <p>How will the CEMP be regulated?</p>	<p>A Preliminary Construction Environmental Management Plan (PCEMP) and associated sub plans included in the EIS, would form the basis for the CEMP for the Proposal (refer to Appendix I of the EIS). Subsequent to determination of the Proposal (Development Application which is the subject of this RtS), the CEMP would be prepared by SIMTA and approved by DP&E in consultation with a number of government agencies.</p> <p>The CEMP for the Proposal would be prepared in consultation with key relevant agencies and Councils for the approval of the Secretary (in accordance with the Conditions of Approval for the Approved Concept (SSD 5066). Furthermore, the CEMP would be prepared in accordance with the Guideline for the <i>Preparation of Environmental Management Plans</i> (Department of Infrastructure, Planning and Natural Resources, 2004).</p> <p>Contractors appointed to implement the content of the CEMPs would be ISO 14001 accredited. Overall, the CEMP would be audited by SIMTA and regulated by DP&E's Compliance Division. It is understood that the CEMP would be publicly available on request from DP&E.</p>	<p>Appendix I of the EIS.</p> <p>Appendix I of the EIS.</p>
	<p>Works period A is scheduled to occur prior to the construction phase of the Proposal, therefore prior to the development of the CEMP. How would the construction activities be regulated during this period?</p>	<p>Mitigation measures to manage impacts associated with construction (including pre-construction) for the Proposal are included in Section 22 of the EIS. As outlined in mitigation measure 0A (Section 22 of the EIS and Section 8 of this RtS):</p> <p><i>Pre-construction works would be undertaken subject to the preparation of an Environmental Work Method Statement (EWMS) or equivalent, subject to approval of the Environmental Representative (ER) for the MPW Stage 2 Works. The ER is independent of the Project team</i></p>	<p>Section 22 of the EIS.</p> <p>Section 8 of this RtS.</p>

Issue	Summary	Comments	Reference
		<p>and is approved by DP&E. The Pre-construction works include works within Works period A (Section 4 of the EIS) and the following:</p> <ul style="list-style-type: none"> • <i>survey; acquisitions; or building/ road dilapidation surveys; fencing; investigative drilling, excavation or salvage</i> • <i>minor clearing or translocation of native vegetation that does not comprise any EECs</i> • <i>establishment of site compounds and construction facilities</i> • <i>installation of environmental mitigation measures</i> • <i>utilities adjustment and relocation that do not present a significant risk to the environment, as determined by the Environmental Representative</i> • <i>other activities determined by the Environmental Representative to have minimal environmental impact</i> • <i>All works as described in Works period A in section 4 of this EIS.</i> <p>The EWMS and other mitigation measures listed above is considered suitable to ensure that potential environmental impacts can be managed and mitigated during the pre-construction period for the Proposal.</p>	
Tech Studies	Modelling data should be independently verified	The EIS was prepared by experienced professionals in accordance with all relevant environmental and planning legislation and other relevant procedures and guidelines required by government agencies and the Secretary's SEARs (SSD 7709). No further verification is considered necessary.	N/A
General	<p>Poor leadership for the Proposal</p> <hr/> <p>Poor planning for the Proposal</p>	There has been strong and consistent support at State and Commonwealth Government levels for the development of an IMT in Moorebank. The Proposal site has been earmarked as a highly suitable location for an IMT in both freight and distribution strategy and there is demonstrable demand for an IMT within the area (refer to Section 3 of the EIS). Development of the land for the purposes of an IMT is therefore considered the most suitable and highest and best use for the land.	Section 3 of the EIS.

Issue	Summary	Comments	Reference
	<p>Mitigation for the Proposal is insufficient</p>	<p>The Commonwealth and State governments have further endorsed the development of an IMT on the MPW site through granting approvals including the MPW EPBC Approval (No. 2011/6086) and the MPW Concept Approval (SSD 5066).</p> <p>Mitigation measures for the Proposal are outlined in the respective impact assessment sections and summarised in Section 22 of the EIS.</p> <p>Mitigation measures have been prepared to manage impacts associated with the Proposal that have been identified through the impact assessment. Mitigation measures were based on legislative requirements, the SEARs and current best practice and are considered appropriate to manage the impacts identified within the EIS. Additionally, a revised Best Practice Summary report has been prepared for the Amended Proposal, refer to Appendix K of this RtS</p> <p>These mitigation measures have been further updated to address the potential environmental impacts of the Amended Proposal included within the RtS (refer to Sections 6, 7 and 8 of this RtS).</p>	<p>Section 22 of the EIS.</p> <p>Sections 6,7 and 8 of this RtS.</p>
Economics			
General	Responsibility to pay for Hume Highway upgrade	<p>A traffic and transport assessment has been provided in Section 7 and Appendix M of the EIS.</p> <p>The assessment indicates that only a minor contribution to congestion is predicted throughout the road network due to the traffic generated by the Proposal. The Hume Highway interchange is predicted to operate at an unsatisfactory level of service (LoS F) for the PM peak hours with or without the generated traffic by the Proposal.</p> <p>Key roads in the network such as the Hume Highway will need to be improved to cater for the forecast increase in traffic volumes which will result from general growth in background traffic (with or without the Proposal). A list of road network improvements, that should be considered by Roads and Maritime, have been provided within the EIS to further improve the road network.</p>	Section 7 and Appendix M of the EIS.

Issue	Summary	Comments	Reference
	<p>The Proposal prioritises profit over community interest</p> <hr/> <p>Economic benefits are derived from taking 3000 vehicles off the road but EIS demonstrates that the number would be significantly less than this</p>	<p>An assessment of the socio-economic benefits of the Proposal is included in Section 20.5 of the EIS.</p> <p>The Proposal has the potential to generate both positive and negative impacts. The long-term positive impacts are generally more likely to be received at the regional level, while the short-term direct impacts (both positive and negative) are likely to be felt locally.</p> <p>Economic impacts of the Proposal would generally be long term and positive. Benefits include:</p> <ul style="list-style-type: none"> • Increased employment opportunities • Increased trade at local businesses • Increase in the proportion of freight moved by rail, reducing the cost of rail transported containers for Import/Export, Intrastate or Interstate usage. • Increase in rail usage resulting in improved productivity, reduce operating costs, increased reliability, reduce costs associated with road damage, congestion and accidents. <p>The assessment found that any negative socio-economic impacts would be minor, particularly with proposed mitigation measures minimising any negative impacts. Mitigation measures are included in section 20.5 and 22 of the EIS.</p>	<p>Section 20.5 of the EIS.</p>
	<p>Funding for the project</p>	<p>The Proposal is to be funded by both SIMTA and MIC. A capital investment value for the Proposal has been provided in Section 1.1 of the EIS.</p>	<p>Section 1.1 and Appendix B of the EIS</p>
	<p>Economic costs of adverse health impacts</p>	<p>A Human Health Risk Assessment has been prepared for the Proposal is included in Section 10 and Appendix P of the EIS.</p> <p>The Human Health Assessment found that the potential increase in risks to human health from the operation of the Proposal are low or negligible and therefore would not result in significant economic costs.</p>	<p>Section 10 and Appendix P of the EIS.</p>

Issue	Summary	Comments	Reference
Reduction in property prices and compensation	Decrease in property prices	Surrounding properties identified as sensitive receivers to the Proposal site are outlined in Section 20.3.3 of the EIS.	Section 22 of the EIS.
	Request for reimbursement of property capital loss	A socio-economic impact assessment was undertaken in preparation of the EIS (refer to Section 20.5 of the EIS). Section 20.5.3 of the EIS considers economic impacts generated as a result of the Proposal both during construction and operation.	Section 8 of the RtS.
	Impacts to nearby residents economic wellbeing	Socio-economic impacts have been considered with regard to the results of technical specialist assessments for air, noise, traffic and health (refer to Appendices M, N, O and P respectively), which show that impacts would be effectively managed (in accordance with relevant criteria) through the application of management and mitigation measures.	
	Affected properties should be compensated to provide mitigation (e.g. double glazing)	These mitigation measures have also been updated to address the potential environmental impacts from the Amended Proposal (refer to Sections 6,7 and 8 of this RtS). In consideration of the impacts posed by the Proposal no compensation is considered necessary or suitable.	
	Directly affected residents should be compensated		
Employment	Employment numbers would be higher with a greater mix of industries	An assessment of employment generated by the Proposal is included in Section 20.5 of the EIS.	Section 20.5 of the EIS.
	Project should provide greater employment opportunities	<p>During construction, it is anticipated that 570 construction personnel would be required during the Proposal's peak construction period, with positions to be filled locally where possible.</p> <p>During operation, the Proposal would provide employment opportunities associated with the operation and maintenance of the IMT, warehouse and distribution facilities, of both skilled and unskilled nature. It is estimated the Proposal will result in the provision of approximately 1,265 jobs per year, mostly associated with warehouse operations.</p> <p>The Proposal would generate a considerable number of jobs which would provide a benefit to both the local and greater community.</p>	

Issue	Summary	Comments	Reference
	Dispute employment numbers stated in the EIS. The use of automation would reduce these numbers significantly	An automated terminal operating system is not proposed as part of the Proposal and therefore the employment numbers provided are considered valid (refer to Section 20.5 of the EIS). Notwithstanding this, the warehousing component of the Proposal, which would not be subject to automation in the foreseeable future would be the main employment generator when compared with potential employee growth associated with IMT operations.	Section 20.5 of the EIS.
	Decreases in employment in the region Employment should be preferentially provided for nearby residents	<p>An assessment of employment generated by the Proposal is included in Section 20.5 of the EIS.</p> <p>During construction, it is anticipated that 570 construction personnel would be required during the Proposal's peak construction period, with positions to be filled locally where possible.</p> <p>The workforce selected for the Proposal would seek to utilise labour resources where most effective. As outlined in Section 20.5, employment opportunities would be generated during both construction and operation of the Proposal, and it is envisaged that many positions would be filled by residents from the local and regional area.</p> <p>During operation, the Proposal would provide employment opportunities associated with the operation and maintenance of the IMT, warehouse and distribution facilities, of both skilled and unskilled nature. It is estimated the Proposal will result in the provision of approximately 1,265 jobs per year, mostly associated with warehouse operations.</p>	Section 20.5 of the EIS.
Cost of the project	Indirect cost of the project to the region not covered in the EIS	<p>A capital investment value (direct development cost) for the Proposal has been provided in Section 1.1 of the EIS. Section 20.3 of the EIS provides an assessment of the economic impacts (both positive and negative) of the Proposal.</p> <p>Indirect costs in the form of environmental externalities (environmental costs imposed on the surrounding environment) would be effectively controlled and managed through the implementation of mitigation measures for the Proposal (refer to Section 22 of the EIS).</p> <p>Section 7.6 of the EIS provides a summary of indirect costs in the form of potential traffic impacts from operation of the Proposal, and concludes that developer contribution discussions to address these impacts would be undertaken with Roads and Maritime subsequent to the</p>	Sections 1.1, 7 and 22 of the EIS

Issue	Summary	Comments	Reference
<p>finalisation of the Precinct Model⁸. The apportionment of developer contributions would be subject to the outcomes of the Precinct Model and would be discussed further, and as necessary an agreement determined, between SIMTA and the relevant government agencies (Roads and Maritime and Liverpool City Council, as relevant).</p>			
<p>Community</p>			
Consultation	How can residents ask questions and raise issues with the Proponent?	<p>As outlined in the EIS and consultation newsletters, a number of feedback mechanisms are available for community members (Section 6 of the EIS and Section 2 of this Rts). These include:</p> <ul style="list-style-type: none"> • A stand-alone website: 'www.simta.com.au' which is regularly updated to provide detailed, quality information to the community about the Proposal and planning process. The website provides information about the different ways to contact the Project team with feedback or questions. • An email feedback system: 'consulting@elton.com.au' which is a convenient online feedback system for stakeholders, and an efficient way for people to obtain responses from the Project Team within 48 hours. • A free-call information line: (1800 986 465), available 24 hours a day. 	<p>Section 6 of the EIS.</p> <p>Section 2 of this Rts.</p>
	How will residents be communicated with in the future?	<p>As identified in Section 22 of the EIS, post determination of the Proposal, A Community Engagement Plan (CEP) (or equivalent) would be prepared prior to construction of the Proposal works to outline community involvement and consultation activities during early works, construction and operation phases.</p>	Section 22 of the EIS.
	A community engagement plan including a community consultative committee, has not been implemented	<p>As a minimum, the CEP would include appropriate measures for community involvement, including:</p> <ul style="list-style-type: none"> • a direct telephone number (24 hour); 	Section 22 of the EIS.

⁸ Currently under preparation by SIMTA to highlight all potential traffic impacts of the Proposal (as a part of the Moorebank Precinct), the need for upgrades to the road network, and the timing and triggers for those upgrades. This Precinct Model is envisaged to be available towards the middle of 2017.

Issue	Summary	Comments	Reference
		<ul style="list-style-type: none"> • an email address; • a postal address; • regular project updates; • a community liaison representative; and scheduled meetings with a local representative body such as a community consultative (or liaison) committee. <p>The CEP would also set out a guide on expectations for responding to relevant information received from community members.</p> <p>The CEP would be prepared to ensure:</p> <ul style="list-style-type: none"> • the community and stakeholders have a high level of awareness of all processes and activities associated with the Project; • accurate and accessible information is made available; and • a timely response is given to issues and concerns raised by stakeholders and the community. 	
	<p>Consultation to date has been insufficient. Specific locations have been neglected</p>	<p>As discussed in Section 6 of the EIS, consultation activities to inform and engage the community and other stakeholders began during 2010 as an ongoing process. Key consultation activities throughout this period have included:</p>	<p>Section 6 of the EIS.</p>
	<p>Glenfield not included within consultation area</p>	<ul style="list-style-type: none"> • Establishment and ongoing updates to the MPW Project website (http://www.micl.com.au), providing information relating to the progress of the Project, details relating to the environmental assessment and consultation information 	
	<p>Newspaper and newsletters are inadequate forms of consultation</p>	<ul style="list-style-type: none"> • Establishment of a Project Information Line to enable all stakeholders to provide feedback and ask questions 	
	<p>The process should halt until further consultation has been undertaken</p>	<ul style="list-style-type: none"> • Personal briefing sessions with residents who have contacted SIMTA through the Project website 	

Issue	Summary	Comments	Reference
	<p>Advertisements were not placed in local newspapers</p> <hr/> <p>Consultation does not align with legal obligations</p>	<ul style="list-style-type: none"> Community update newsletters sent to residential households within suburbs adjacent to the MPW site (consultation area - including households in Casula, Wattle Grove, Holsworthy and Glenfield) Community information sessions to allow dissemination of information relating to the MPW Project, as well as to provide the community with the opportunity to ask questions, discuss any issues with members of the technical team and to take away fact sheets on some of the technical studies Stakeholder meetings were held with local community members to address particular concerns raised relating to the MPW Project. <p>in August 2016, SIMTA distributed a newsletter to approximately 10,000 households in the suburbs surrounding the MPW site to inform them about the Proposal, and detail how they could submit feedback or request more information. To date no submissions have been received specifically relating to this newsletter.</p> <p>More recently in November 2017, a newsletter was sent out to residential households within suburbs adjacent to the MPW site (including households in Casula, Wattle Grove, Holsworthy and Glenfield) to note that the EIS was on exhibition, along with details on how community members could provide a submission for consideration.</p> <p>Additionally, DP&E and SIMTA placed advertisements in local newspapers to indicate the public exhibition of the EIS.</p> <p>Consultation activities, as outlined within Appendix L of the EIS, have been undertaken appropriately and in accordance with obligations set out within the SEARs (SSD 16-7709) and REMMs identified in the MPW Concept Approval (SSD 5506).</p> <p>Consultation undertaken for all stages of the MPW Project has been taken into consideration, such that issues raised during previous phases of consultation have been used to shape the design and assessment approach during the preparation of the Proposal (refer to Section 6.6 of the EIS).</p>	

Issue	Summary	Comments	Reference
	<p>Consultation information has been difficult to understand and includes Jargon / industry terms</p> <hr/> <p>Consultation in languages other than English</p>	<p>Section 6 of the EIS provides a summary of the consultation activities that have been undertaken for the Proposal. This section has been written as clearly as possible and includes only abbreviations ('jargon') which is summarised in the glossary of the EIS.</p> <p>SIMTA has provided a number of pathways for community members utilise if they require assistance in understanding the key details of the Proposal. These include:</p> <ul style="list-style-type: none"> • Community newsletters: distributed to over 10,000 residents suburbs surrounding the Proposal. • A stand-alone website: 'www.simta.com.au' which is regularly updated to provide detailed, quality information to the community about the Proposal and planning process. The website provides information about the different ways to contact the Project team with feedback or questions. • An email feedback system: 'consulting@elton.com.au' which is a convenient online feedback system for stakeholders, and an efficient way for people to obtain responses from the Project Team within 48 hours. • A free-call information line: (1800 986 465), available 24 hours a day. <p>Consultation materials including newsletters and key documents were made available to community members in a number of languages upon request.</p>	<p>Section 6 of the EIS.</p> <hr/> <p>Section 6 of the EIS.</p>
<p>Impacts to community and lifestyle</p>	<p>The Proposal would impact on community, families and lifestyle</p> <hr/> <p>The Proposal would change the character of the area</p>	<p>The environmental issues associated with impacts on community, lifestyle and character are identified and assessed within the relevant sections of the EIS, including traffic and transport (Section 7 of the EIS), air quality (Section 9 of the EIS), noise and vibration (Section 8 of the EIS), visual amenity, urban design and landscape (Section 15 of the EIS) and property and infrastructure (Section 20.3 of the EIS). The EIS concludes that no significant environmental impacts would result from the construction and/or operation of the Proposal.</p>	<p>Sections 7, 9, 8, 15 and 20.3 of the EIS</p>
<p>Cultural</p>	<p>The project will have a negative impact on the Casula Powerhouse</p>	<p>As discussed in Section 2 of the EIS, the Casula Powerhouse is located approximately 360m west of the Proposal site. The Casula Power Station is of local heritage significance and is listed on the Liverpool LEP 2008. An assessment of the potential impacts from construction</p>	<p>Sections 2, 8, 9, 15, 17, 22 and Appendix N, O,</p>

Issue	Summary	Comments	Reference
	<p>which is of cultural significance to the community and visitors</p>	<p>and operation of the Proposal on the heritage values of the Casula Powerhouse is included in Section 17 and Appendix V of the EIS. Construction and operation of the Proposal would not result in direct impacts. However, the item may experience some indirect impacts relating to noise and visual amenity (discussed below).</p> <p>Impacts on amenity at the site have the potential to affect the cultural significance. An assessment of the potential amenity impacts of the Proposal (noise, visual) on the Casula Powerhouse has been included in the EIS (refer to Sections 8 and 15 and Appendix N and T of the EIS).</p> <ul style="list-style-type: none"> <p>• Noise</p> <p>During construction, noise levels at the Casula Powerhouse (S2) are predicted to comply with relevant NML for all scenarios (standard hours, out of hours and cumulative).</p> <p>The Noise and Vibration Impact Assessment also determined that the operational levels from the Proposal would comply with the relevant criteria. Cumulative noise levels due to the concurrent operation of the Proposal and the MPE Stage 1 Proposal are also predicted to comply with the established criteria.</p> <p>• Visual</p> <p>During construction, the most visible elements of the Proposal are likely to be equipment, such as cranes and piling rigs. The visual impact assessment determined that construction works would have a low / moderate impact on the Casula Powerhouse. Visual impacts would be localised and temporary in nature and are unlikely to significantly impact on the amenity of the Casula Powerhouse.</p> <p>Glimpses of the Proposal including the tops of warehouses and light poles may be visible from the Casula Powerhouse through existing vegetation and above the tree line. Impacts to views from the Casula Powerhouse are anticipated to be minimal and are not likely to detract from the visual amenity of the area.</p> <p>Measures to further mitigate noise and visual impacts have been included in relevant section of the EIS and summarised in Section 22 of the EIS.</p> 	<p>T and V of the EIS.</p> <p>Section 8 of this RtS.</p>

Issue	Summary	Comments	Reference
Social	Large increases in working population, straining health services in the area	<p>As discussed in Section 20.5 and Section 6 of the EIS, the Proposal would generate employment growth in the local area. The operational workforce for the Proposal would comprise 1,265 (40 IMT and 1,200 warehouse, 25 freight village) employees (additional positions created in the area). These positions would be filled locally where possible.</p> <p>Although not a direct commitment to health services, as discussed in Section 20.3 of the EIS, consideration would be given by SIMTA to the relevant developer contributions based on the proposed workforce and the benefits posed by the Proposal.</p>	Sections 6 and 20.3 of the EIS.
	The project will lead to vast dislocation of surrounding residents due to negative impacts	<p>Section 20.5 of the EIS provides an assessment of the socio-economic impacts (both positive and negative) of the Proposal.</p> <p>Further, the EIS concludes that no significant environmental impacts would result from the construction and/or operation of the Proposal. The EIS includes a number of mitigation measures, to further reduce the overall environmental impacts, which would be implemented for the construction and operation of the Proposal (refer to Section 22 of the EIS).</p> <p>Health and amenity impacts imposed as a result of the Proposal, in terms of air quality and noise, have been assessed in the Health Risk Assessment undertaken for the Proposal (refer to Appendix P of the EIS). The results of this assessment indicate that the incremental impacts imposed by the Proposal are negligible, providing little evidence to suggest an imperative to relocate, or that there would be a greater relocation than in the absence of the Proposal.</p>	Section 20.5 and Appendix P of the EIS.
	Further information should be provided on social statistics in Wattle Grove and Casula	<p>Social impacts associated with the Proposal have been assessed in Section 20.5 of the EIS.</p> <p>The study area for the assessment encompassed suburbs surrounding the Proposal including Casula, Moorebank, Wattle Grove and Glenfield and the broader Liverpool LGA. Social statistics for these suburbs was adequately presented and assessed within the EIS.</p>	Section 20.5 of the EIS.
	Project will increase drug related crime	<p>An assessment of social impacts associated with the project has been provided in Section 20.5 of the EIS.</p> <p>The Proposal would be self-contained, enclosed and secure. Natural and electronic surveillance would be installed throughout the facility, and a security fence would restrict</p>	Section 4.2.8 of the EIS.

Issue	Summary	Comments	Reference
Safety	Proposal could become a target for terrorist attack	<p>unauthorised access (Section 4.2.8 of the EIS). Crime within or involving the Proposal would therefore be prevented to the greatest extent possible.</p> <p>A description of the security measures incorporated into the Proposal has been provided in Section 4 of the EIS.</p> <p>The Proposal includes a number of on-site security measures to ensure the protection and safety of the Proposal site, its employees and authorised visitors. Security at the Proposal site would include:</p> <ul style="list-style-type: none"> • Fencing around the perimeter of the Proposal site, and potentially the Rail link connection, which is envisaged to include palisade fencing and chain-link fencing along the Moorebank Avenue boundary and chain-link at other locations (refer to Section 4.2.7 of the EIS) • A controlled site access system including electronic truck processing • A controlled circuit television (CCTV) security system at key locations including site entrances and along boundaries • An integrated telecommunications system which involves connection to all main buildings and structures. 	Section 4.2.8 of the EIS.
	Biosecurity risks (such as fire ants and the zika virus) from freight	<p>During operation, fumigation and washdown may be required for the removal of emissions, viruses or pathogens that may be present within incoming freight containers entering the Proposal site.</p> <p>The Amended Proposal (refer to Section 6 and Section 7 of this RtS) includes an area for de-gassing and wash-down and cleaning of containers, which would be provided adjacent to the IMT. These items are required to meet quarantine standards and improve the operation of the IMT facility, from a safety and environmental perspective, and would effectively minimise biosecurity risks presented from incoming freight.</p> <p>The container wash-down facilities would comprise of a sheltered wash-down bay located in the northern portion of the IMT facility. This would comprise of a sheltered structure with three walls (made up of three metres of solid structure at the base with an elevated open-air</p>	Section 6,7 and Appendix E of this RtS

Issue	Summary	Comments	Reference
		<p>structure above), and a roof to provide weather protection. Container handling equipment, such as reach stackers, would transport a container into the wash-down bay where external washing of the container would be undertaken. The wash-down bay would be located on less porous pavement and would be surrounded by drains that convey water into a water holding tank for treatment and future discharge.</p> <p>Containers with goods including food and wood are gassed with methyl bromide prior to departure in order to destroy vermin and pests, and these containers need to be de-gassed before the goods can be used. A designated area for de-gassing would be provided within the northern portion of the IMT facility. Upon receipt, a container requiring de-gassing would be stored in this designated area and an external de-gassing provider would be contacted who would undertake the de-gassing process. The de-gassing process is completely enclosed and the removed gas would be contained and transported off site by the de-gassing provider.</p>	
	Explosion, leakage or emissions from containers and freight	An assessment of the risks to the environment and the community from having regards to hazardous materials and dangerous goods has been included in Section 14 of the EIS.	Section 14 of the EIS.
	Proposal would compromise the safety of the region	<p>Dangerous goods have been explicitly excluded from the types of freight that the Proposal would handle (i.e. they would not be accepted), and would therefore also be excluded from the Proposal's warehouse, freight container storage and transit areas. There is considered to be no risks from dangerous goods in freight, transit or storage.</p> <p>For operation of the Proposal, some hazardous materials would be stored and used on site for refuelling and maintenance/firefighting purposes. With the implementation of the mitigation measures as outlined in Section 14 of the EIS the Proposal is anticipated to have a minimal impact on the safety of the surrounding region.</p>	Section 14 of the EIS.
Rail network	Impacts to commuter train availability	A description of rail movements associated with the Proposal is provided in Section 4 of the EIS. During usual operations, the IMT facility would accommodate up to 12 train movements per day (6 in each direction). Freight trains travelling to and from the Proposal site would utilise the SSFL. The SSFL is a dedicated freight rail line operated by Australian Rail Track Corporation and does not interact with the commuter rail network. Consultation with ARTC has confirmed that sufficient paths are available to service the Proposal.	Section 6 of the EIS.

Issue	Summary	Comments	Reference
		As such, rail movements for the Proposal would not impact on availability of commuter trains.	

5.1 Special interest groups

A total of seven submissions were received from special interest groups and immediately surrounding land owners including the following:

- Glenfield Farm
- Glenfield Waste
- Liverpool Action Group
- Moorebank Heritage Group
- Action for Public Transport
- Ryde – Hunter’s Hill Flora and Fauna Preservation Society
- East Liverpool Progress Association.

These submissions have been collated and analysed with responses provided below.

Table 5-2: Glenfield Farm

Aspect	Comment	Response	Reference
Objection Letter			
NVIA methodology	It was stated that the noise monitors used to record background noise levels have been placed away from the part of Casula containing Glenfield farm and other affected residents. It is suggested that the $L_{Aeq, 15min}$ impacts on the residence be included into the model.	The Noise and Vibration Impact Assessment (NVIA), included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. All noise impacts presented in the NVIA for Casula are those at the most affected location within the catchment, thereby presenting a worst-case assessment for Casula. Glenfield Farm has been assessed as a residential receiver within the Casula noise catchment. During operation, noise levels in Casula from the Proposal would generally comply with relevant criteria, including relevant sleep disturbance goals and	Section 8 and Appendix N of the EIS. Section 7 and Appendix D of this RtS.

Aspect	Comment	Response	Reference
		<p>generally would be lower than existing background noise levels. During periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed (by 1 dBA) the established night time intrusiveness criterion at the most affected receivers in Casula. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated through the implementation of standard mitigation measures.</p> <p>A revised rail noise assessment was undertaken for this RtS to more accurately predict the impact of the Proposal on L_{Aeq} rail noise at sensitive receivers, including those in the Casula catchment (refer to Section 7 and Appendix D of this RtS). The assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield farm respectively. Additional modelling and assessment has also been undertaken for the amendments to the Proposal as part of this RtS (refer to Section 7 and Appendix D of this RtS). The amendments to the Proposal would not result in any increase in noise emissions associated with the Proposal, and therefore would not alter the results provided above.</p>	
Design of rail curve	It is requested that the Department place a condition that the southern spur/link curve, which has a current width of 160 metres, be widened to prevent excessive noise at surrounding residences.	<p>The design of the alignment for the Rail link tie-in is part of the approved MPE Stage 1 Project (SSD14-6766). The construction and design of the Rail link is therefore not considered relevant to the Proposal.</p> <p>As identified in Section 8 and Appendix N of the EIS, a number of best practice measures would be incorporated into the design and operation of the Rail link to manage wheel squeal, including:</p> <ul style="list-style-type: none"> • Wagons on the Rail link incorporate available best practice technologies for reducing wheel squeal, such as permanently coupled “multi-pack” steering wagons using Electronically Controlled Pneumatic braking with a wire based distributed power system; • Track grinding is carried out within the Rail link to ensure the correct profile is maintained on the track to encourage proper rolling stock steering. 	<p>MPE Stage 1 Project (SSD 14-6766)</p> <p>Section 8 and Appendix N of the EIS.</p> <p>Appendix K of this RtS.</p> <p>Section 7, Appendix D and Appendix K of this RtS</p>

Aspect	Comment	Response	Reference
		<p>With the implementation of these measures the occurrence of curve squeal is considered unlikely.</p> <p>In addition to this, SIMTA has had further consideration to the implementation of best practice for the Amended Proposal. Appendix K of this RtS provides additional information on best practice that is to be undertaken for the Proposal. The approach presented in the revised Best Practice Summary (refer to Appendix K) is considered reasonable, feasible and necessary to achieve long-term emissions reductions throughout the operational life of the Amended Proposal.</p>	
Noise monitoring	<p>Curve squeal would create levels of unacceptable noise, and that the use of oilers need to be further proven to be an effective mitigation measure.</p> <p>It is requested that when monitoring is carried out and breaches of criteria occur, that the relevant authority (LCC) issues punishment, including fining the rail operators for each breach, and to eventually shut down the operation of the rail link.</p>	<p>It is acknowledged that operation of the rail link branching from the SSFL to facilitate railway access to/from the Proposal may generate “rail squeal”, which has been identified and assessed within Section 8.2 of the EIS.</p> <p>Regarding curve squeal, recently published research into rail squeal for freight movements in NSW (Hanson, D et al. <i>Curve Squeal: Causes, Treatments and Results. Internoise, 2014</i>) indicates that effective track grinding and lubrication, as proposed to be implemented for the Rail Link, eliminates more than 90% of squeal events (refer to Section 22 of the EIS and Section 8 of this RtS).</p> <p>As discussed in Section 22 of the EIS, ambient noise monitoring surveys would be undertaken within Casula, Wattle Grove and Glenfield throughout construction and operation of the Proposal (with annual reporting of noise results up to two years beyond the completion of the Proposal). Monitoring will include instruments that record continuously.</p> <p>Any potential exceedances in noise levels for the Proposal would be addressed through compliance measures to be provided in the OEMP for operation for the Proposal, the appropriate regulatory authority for which would be DP&E.</p>	Section 8 and Appendix N of the EIS.

Aspect	Comment	Response	Reference
Land Ownership	<p>It is clear from the map that if the Southern spur/link line was taken in a gentle curve across the Northern part of the Glenfield landfill site much of the rail noise and curve squeal would be ameliorated. Instead, the curved link line is crammed into the Northern end of this site directly in front of Glenfield Farm, presumably because the Glenfield Waste Services owners have declined to make any more land available. The Moorebank Precinct West (MPW) Stage 2 EIS in its Rail Access Report 2.1 The Rail Link (pg 9) asserts that "The route from the SSFL is through land owned by the Glenfield Waste Facility (GWS)..." but I can find no evidence to support this statement.</p> <p>Three and a half years ago, when carrying out due diligence for our private purchase of Glenfield Farm, which was subsequently completed, I went into Liverpool Council and viewed documents that stated, from memory, that:</p> <p>The land was to be passed to Glenfield Waste Services for the purpose of running a waste landfill operation with the lease/ operation duration expected to be approximately ten years (this time has been exceeded). After the site was filled and remediated, the land was to revert to public recreation space to be administered by Liverpool City Council. My understanding is that uses for the space that</p>	<p>The tie-in of the Rail link to the SSFL, which crosses land owned by the Glenfield Waste Facility, is approved to be constructed and operated under the MPE Stage 1 Project (SSD14-6766). The Proposal would utilise this Rail link for operational purposes. The Rail link is to be constructed and commissioned prior to the operation of the Proposal.</p>	<p>MPE Stage 1 Project (SSD 14 6766).</p>

Aspect	Comment	Response	Reference
	<p>were under consideration included a golf course. Unless something has changed, Glenfield Waste Services and its parent company do not own this land and cannot offer or sell on the land to MIC/SIMTA developers for use to run a spur/link line. I have been informally informed that records of the Liverpool City Council/Glenfield Waste Services contract were lost in the fire that destroyed the Liverpool City Council building. I was also informed that the problem with the contract with Glenfield Waste Services was that no completion date for their landfill operation was specified, meaning that as long as they keep filling, they do not have to return the land to public use. This however, does not mean they own the land, which should be returned to public use, whatever that may prove to be. The RAID group has also been informed that this land ownership issue has held up State Government approvals of the project, but the resolution process has not been made public. As this land is still, as far as I can ascertain, public land, the processes by which it is acquired for use by the developers should be transparent and properly carried out. I would request that the NSW Planning Department deal with this issue. Liverpool Council has not at this time responded to a request for clarification of the ownership of this land, and how any zoning</p>		

Aspect	Comment	Response	Reference
	changes have been carried out that remove it from recreational use.		
Environmental and public health issues (methodology of quantifying health risks imposed by the Project)	<p>The drainage channels would fragment the native vegetation and transport polluted water directly into the Georges River.</p> <p>Exotic pathogens and pests (vapourised insecticide and viruses) imported from overseas and interstate would be released into the surrounding environment. Fumigation practices would pose a serious risk to surrounding residences and environment, given the Project is located on the banks of the Georges River.</p> <p>Clearing of 45 hectares of native vegetation would result in the loss of highly endangered protected species including the swamp wallaby, brush-tailed wallaby and koalas.</p>	<p>The BAR provided in Appendix Q and summarised in Section 11 of the EIS, and the Updated BAR (Appendix G of this RtS), includes an assessment of the impacts of the Amended Proposal on flora and fauna, including threatened and endangered species and habitat. The Amended Proposal would result in the following biodiversity impacts:</p> <ul style="list-style-type: none"> • Impacts to three plant communities and three threatened flora populations. • Loss of specific fauna habitat components, including live trees, tree hollows, foraging resources, ground layer habitats such as ground timber and well-developed leaf litter. • Removal of 43 hollow bearing trees. • Impacts to habitat connectivity in the riparian corridor of the Georges River. • Potential weed spread. <p>Further, the ecological impact of the proposed drainage channels have been assessed in Section 11 of the EIS (and Appendix Q). This assessment was prepared for the Proposal in accordance with the FBA, as required by the SEARs. Under this assessment and framework, the proposed drainage channels are considered unlikely to result in impacts on species movement along corridors, as defined in Section 9.2 of the FBA, as they:</p> <ul style="list-style-type: none"> • Would not result in a gap greater than 100 metres between two areas of moderate to good condition native vegetation, which have a patch size greater than 1 ha • Will not remove over-storey cover and mid-storey cover vegetation within the state significant biodiversity link to create a gap in over-storey cover vegetation greater than 100 metres 	<p>t</p> <p>Sections 6, 7 and 11 and Appendix Q of the EIS</p> <p>Section 7 and Appendix E, F and G of this RtS.</p>

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • Will not create a hostile barrier within the state significant biodiversity link. <p>In addition to this a number of mitigation measures are included in Section 22 of the EIS to reduce the impact of the Proposal on the biodiversity value within and near the Proposal site.</p> <p>Water quality targets would be achieved throughout the Project through the use of a mixture of measures including gross pollutant traps, rain gardens, detention basins and sedimentation basins. As discussed in Section 22 of the EIS, operational water quality monitoring is to be undertaken, with the approach documented in the OEMP to be prepared for the Proposal.</p> <p>An area for container de-gassing has been included as part of the Amended Proposal, outlined within Section 6 of this RtS. The need for this area was raised following consultation with NSW Ports, and would be designed to adequately quarantine containers to prevent the uncontrolled release of pathogenic materials. This area is a designated degassing area however it can also be used for other operational activities.</p> <p>The proposed de-gassing system would include fan forced ventilation for container residual gas extraction and collection. Where fumigation is required, a recapture system will be used to collect and treat residual gas emissions. The proposed de-gassing and recapture system for fumigation will use carbon filtration to control emissions of methyl bromide (refer to Section 7, Appendix E and Appendix F of this RtS). In summary, fugitive emissions from de-gassing and fumigation can be managed to ensure that there is no risk to surrounding land uses.</p>	
Leacock regional park loss of amenity	The construction and operation of the Project would generate noise that would disrupt the amenity of Leacock Regional Park. The allocation of cash to offset the damage done to the SSFL will run out soon and the Park will once again become weed infested and noise	The NVIA, included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. All noise impacts presented in the NVIA for Casula are those at the most affected location within the catchment, thereby presenting a worst-case assessment for Casula. The Leacock Regional Park is included within the Casula receiver catchment.	Section 8 and Appendix N of the EIS.

Aspect	Comment	Response	Reference
	<p>affected as it will be used as an acoustic buffer zone. Conditions should be set to ensure that the developers maintain the park to a reasonable state in the long-term.</p>	<p>During operation, noise levels in Casula from the Proposal would generally comply with relevant criteria and would generally be lower than existing background noise levels.</p> <p>A revised rail noise assessment was undertaken for this RtS to more accurately predict the impact of the Amended Proposal on L_{Aeq} rail noise at sensitive receivers, including those at Casula (refer to Section 7 and Appendix D of this RtS). The assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield farm respectively. The revised assessment predicted that Amended Proposal rail noise levels would generally comply with established NSW Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA L_{Aeq, 15 hour} and 60 dBA L_{Aeq, 9 hour} for daytime and night time, respectively.</p> <p>Additional modelling and assessment has also been undertaken for the Amended Proposal as part of this RtS (refer to Section 7 and Appendix D of this RtS). The Amended Proposal would not result in any increase in noise emissions associated with the Proposal as assessed in the EIS and therefore does not require further assessment to that presented in the EIS.</p> <p>As a result of the impacts identified and the SSFL operation being subject to separate approval, the on-going maintenance of Leacock Park is not considered relevant to this Proposal.</p> <p>The need for developer contributions regarding the Proposal is prescribed in Condition of Approval E13 for the MPW Concept Approval (SSD 5066 3 June 2016) and detailed in Section 20.3.4 of the EIS.</p>	<p>Section 7 and Appendix D of this RtS.</p>
<p>Traffic impacts</p>	<p>Arterial roads around Liverpool are already very slow during rush hours and beyond, and the huge increase in traffic resulting from the</p>	<p>There has been strong and consistent support at State and Commonwealth Government levels for the development of an IMT in Moorebank. The Proposal site has been earmarked as a highly suitable location for an IMT in</p>	<p>Sections 3, 7 and Appendix M of the EIS</p>

Aspect	Comment	Response	Reference
	<p>Intermodal, which is essentially a huge interstate warehousing operation, will virtually paralyse Liverpool and have a cascade effect across the South West Sydney road network. As a high growth area, South West Sydney is going to become a regional casualty because of this one over-scaled warehousing operation, which should be sited near the new airport. The project should be rejected by the NSW Planning Department on the basis of highly adverse traffic projections alone. As Liverpool city now stands to become a service ghetto for this vast warehousing development, its future as a centre of new development in South Western Sydney is severely compromised. The impacts of the project have so far not been properly addressed in terms of cost to the taxpayer of attempting to deal with some of the traffic impacts, and loss of the basic amenity of free movement by Liverpool residents.</p>	<p>both freight and distribution strategy and there is demonstrable demand for an IMT within the area (refer to Section 3 of the EIS). Development of the land for the purposes of an IMT is therefore considered the most suitable and highest and best use for the land.</p> <p>The Commonwealth and State governments have further endorsed the development of an IMT on the MPW site through granting approvals including the MPW EPBC Approval (No. 2011/6086) and the MPW Concept Approval (SSD 5066).</p> <p>The Traffic Impact Assessment provided in Section 7 and Appendix M of the EIS provides an impact assessment of the traffic generated by the Proposal. The traffic impact assessment concludes that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of mitigation and management measures.</p> <p>The analysis shows that with the exception of the Moorebank Avenue/Anzac Road intersection, all of the key intersections within the study area would require upgrades to manage existing and projected background traffic volumes before the addition of the traffic generated by the Proposal. The Traffic /Impact Assessment from the EIS suggests that the following intersection upgrades (in part or in full) be completed by Roads and Maritime in order for the road network to cater for the demands of future traffic growth before the addition of the proposal traffic:</p> <ul style="list-style-type: none"> • Moorebank Avenue/Anzac Road • M5 Motorway / Moorebank Avenue intersection • M5 Motorway / Hume Highway intersection • Moorebank Avenue / Newbridge Road intersection • Moorebank Avenue / Heathcote Road intersection 	<p>Section 7 and Appendix C of this RtS.</p>

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • M5 Motorway / Heathcote Road intersection <p>A revised CTIA and revised OTTIA are presented in Appendix C and the results are discussed in Section 7 of this RtS. These reports identify that the Amended Proposal would result in consistent impacts to those identified in the EIS.</p>	
Site suitability	<p>It is very poor planning that results in a facility with a huge potential for adverse impact on residential amenity to be located in an area that is predominantly residential in nature. There are other locations which are more industrial in character, which are far more suited to, and can take better advantage of, a large intermodal facility.</p>	<p>There has been strong and consistent support at State and Commonwealth Government levels for the development of an IMT in Moorebank. The Proposal site has been earmarked as a highly suitable location for an IMT in both freight and distribution strategy documents prepared by Government since 2004 and there is demonstrable demand for an IMT within the area (refer to Section 3 of the EIS). Development of the land for the purposes of an IMT is therefore considered the most suitable use for the Proposal site and is consistent with the Liverpool LEP land zoning of IN1 (General Industrial) of the Proposal site.</p> <p>The Commonwealth and State governments have further endorsed the development of an IMT on the MPW site through granting approvals including the MPW EPBC Approval (No. 2011/6086) and the MPW Concept Approval (SSD 5066).</p> <p>The Proposal represents the second stage of development under the MPW Concept Approval. The EIS provides a detailed environmental impact assessment, developed in accordance with the EP&A Act, the SEARs (SSD 7709) issued for the Proposal and applicable Commonwealth, State and local legislation, plans and policies (Refer to Section 5 of the EIS). Detailed mitigation measures are provided in both Section 22 of the EIS and Section 8 of this RtS to reduce the impact of the Proposal on the surrounding community and land uses.</p>	<p>Section 3 and 22 of the EIS.</p> <p>Section 8 of this RtS.</p>

Aspect	Comment	Response	Reference
<p>Operation of the rail during operation</p>	<p>The EIS contains errors and fragmented information. For example, in one section the report details acoustic impacts using train speeds of 35kp/h on the rail link, while in another section it is claimed that the heavy freight trains will leave the SSFL at line speed, which is claimed to be 60kp/h.</p> <p>I have been informed that the line speed on that section of the SSFL is in fact 80 kp/h, which means that fully laden freight trains would theoretically be leaving the SSFL into the spur/link line at 60 - 80kp/h in order to clear the line for other trains. However, apart from meaning the noise impact calculations are meaningless, it is obvious that no responsible locomotive driver would enter a 160 metre radius curve with a fully laden 1800 metre freight train at these speeds. The unrealistic scenarios put forward by the EIS will result in major delays on the essential SSFL as the three to four locomotive monster trains, scheduled to arrive in large numbers each day and night, slowly attempt to negotiate the extremely tight curve link line to the Georges River bridge. It is up to the NSW Planning Department to assess the impacts on such delays to other SSFL users, particularly since the developers are not apparently releasing the proportion of train movements which will be bringing in containers from interstate using the Southern,</p>	<p>The tie-in of the Rail link to the SSFL, which crosses the Glenfield Waste Facility, is approved to be constructed and operated under the MPE Stage 1 Project (SSD14-6766). The Proposal would utilise this Rail link for operational purposes.</p> <p>Section 4.4.2 of the EIS describes how the Rail link was designed, in consultation with the SSFL rail operator ARTC, to allow trains exiting the SSFL from the north onto the Rail link at 60 km/hr and trains exiting the SSFL from the south onto the Rail link to exit at 35 km/hr. This difference is to account for the additional curvature of the track for trains using the southern connection. These speeds are considered suitable for the safe operation of the Rail link and would be maintained for the operation of the Proposal.</p>	<p>MPE Stage 1 Project (SSD 14 6766).</p> <p>Section 4 of the EIS.</p>

Aspect	Comment	Response	Reference
	tightly curved link line. It would appear, however, that this Southern link will be used by the majority of trains.		

Table 5-3: Glenfield Farm – Noise attachment

Aspect	Comment	Response	Reference
<p>Noise sensitive receivers considered in noise and vibration impact assessment</p>	<p>The Main Southern Line is between 220 and 224 metres of the rear of the home [Glenfield Farm]. The double-track Southern Sydney Freight Line (SSFL) is between 240 metres and 246 metres of the rear of the home. In this part of Casula, this residence and another on the same side of Leacocks Lane are the only two fully exposed to the Moorebank Precinct and its associated rail link. What is rather strange is the lack of attention that has been paid to “Glenfield Farm” and this part of Casula.</p> <p>“Glenfield Farm” is a privately owned home, owned & occupied by its current occupants. “Glenfield Farm” is a home from another era, that can’t be changed or altered. “Glenfield Farm” needs to be recognised as ‘sensitive location’ of national historical significance that may struggle to adapt to the new acoustic environment imposed upon it.</p>	<p>As identified in Section 8 and Appendix N of the EIS, Glenfield Farm, and the nearby residence on the same side of Leacocks Lane, have been assessed as a residential receiver in the Casula noise catchment.</p> <p>During operation, noise levels Casula from the Proposal would generally comply with relevant criteria, including relevant sleep disturbance goals and generally would be lower than existing background noise levels. During periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed (by 1 dBA) the established night time intrusiveness criterion at the most affected receivers in Casula. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated through the implementation of standard mitigation measures.</p> <p>A revised rail noise assessment was undertaken for this RtS to more accurately predict the impact of the Amended Proposal on L_{Aeq} rail noise at sensitive receivers, including those at Casula (refer to Section 7 and Appendix D of this RtS). The assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield farm respectively. The revised assessment predicted that Amended Proposal rail noise levels would generally comply with established NSW Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula (RM1). At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does</p>	<p>Section 8 and Appendix N of the EIS.</p> <p>Sections 2, 7 and Appendix D of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA $L_{Aeq, 15 \text{ hour}}$ and 60 dBA $L_{Aeq, 9 \text{ hour}}$ for daytime and night time, respectively. Additional modelling and assessment has been undertaken for the Amended Proposal as part of this RtS (refer to Section 7 and Appendix D of this RtS). The amendments to the Proposal would not result in any increase in noise emissions associated with the Proposal, and therefore would not alter the results as presented in the EIS.</p> <p>In addition to this, Section 22 of the EIS, and Section 8 of this RtS, provides mitigation measures to manage the noise impacts of the Amended Proposal on surrounding residents, including Glenfield Farm.</p>	
Noise and vibration impact assessment methodology	What is missing is a requirement to compliance to the "Protection of Environment Operations Act" (1997). This document refers to 'offensive noise', noise that "by reason of its level, nature, character or quality, or the time at which it is made, or any other circumstances", interfere "unreasonably with the comfort or response of a person who is outside the premises from which it is emitted".	An assessment of noise impacts associated with the Proposal is included in Section 8 and Appendix N of the EIS. The assessment has been undertaken in accordance with relevant NSW Government guidelines and policies and the SEARs (SSD 7709) issued for the Proposal. As detailed in Section 5.2.2 of the EIS, construction and operation of the Proposal would be undertaken in accordance with the requirements of the POEO Act, including with regards to noise. The noise impact assessment has also been updated based on recent additional background noise monitoring and to consider the amendments to the Proposal (refer to Section 7 and Appendix D of this RtS).	Section 8 and Appendix N of the EIS. Sections 6, 7 and Appendix D of this RtS.

Aspect	Comment	Response	Reference
	<p>Depending of which part of the project is examined, a different set of requirements fall into place. The assessment needs to look to the central spine of the Precinct along Moorebank Avenue, where trains are slow moving, where freight is loaded & unloaded, and to the warehousing on either side of the central spine. There are road traffic noise implications to the north (to the M5) due to the road traffic entering & leaving, but there are important rail noise implications to the south west, where the project connects to the Southern Sydney Freight Line (SSFL).</p> <p>In assessing the impacts, there are three (3) major residential areas identified: the suburb of Wattle Grove to the east, the suburb of Glenfield to the south-west, and Casula to the west.</p> <p>At the northern end of the site, the Precinct is pinched between the northern end of Casula and a westward extension of the northern end of Wattle Grove into an industrial area.</p> <p>At the southern end of the site, the Precinct lies between the southern end of Casula and the main body of the suburb of Wattle Grove.</p> <p>At this southern end, the Precinct is also approaching the suburb of Glenfield. In the original noise logging, three (3) points were measured, focussing on the warehousing area, and the central spine, but NOT on the rail link to the SSFL.</p> <p>The second portion of Casula, the area containing "Glenfield Farm", was overlooked.</p>	<p>The assessment of noise impacts associated with the Proposal is included in Section 8 and Appendix N of the EIS. As identified in the EIS, Casula was assessed as a noise catchment and Glenfield Farm has been assessed as a residential receiver within the Casula noise catchment. The location of sensitive receivers and noise monitoring locations assessed, including those within Casula, are detailed in Section 8 and Appendix N of the EIS.</p> <p>During operation, noise levels in Casula from the Proposal would generally comply with relevant criteria, including relevant sleep disturbance goals and generally would be lower than existing background noise levels. During periods where noise levels are enhanced by meteorological conditions, operational noise levels are predicted to exceed (by 1 dBA) the established night time intrusiveness criterion at the most affected receivers in Casula. Exceedances of up to 1 dB are considered negligible and can be effectively mitigated.</p> <p>An assessment of rail noise from the Proposal was undertaken in accordance with the RING and previous submissions from the EPA. L_{Aeq} and L_{Amax} rail noise levels at the most sensitive residential receivers near the Rail link are predicted to exceed the project specific rail noise criteria. However, due to the proximity of these receivers to the SSFL, rail movements associated with the Proposal are not expected to result in a noticeable change to the existing L_{Aeq} and L_{Amax} rail noise levels. As such, mitigation would be ineffective and is not warranted.</p> <p>A revised rail noise assessment was undertaken for this RtS to more accurately predict the impact of the Proposal on L_{Aeq} rail noise at sensitive receivers, including those at Casula (refer to</p>	<p>Sections, 8, 22 and Appendix N of the EIS.</p> <p>Sections 7, 8, Appendix D and Appendix K of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>Section 7 and Appendix D of this RTS). The assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield farm respectively. The revised assessment predicted that Proposal rail noise levels would generally comply with established NSW Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula (RM1). At this location, it is demonstrated that the Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA $L_{Aeq, 15\ hour}$ and 60 dBA $L_{Aeq, 9\ hour}$ for daytime and night time, respectively. Whilst the assessment identified that noise mitigation would not be required, a number of measures have been introduced to further reduce potential noise impacts from the Proposal. A combination of physical and procedural mitigation measures are proposed to manage potential noise impacts of the Proposal. These include, but are not limited to, restriction of certain activities during construction and operation in the CEMP and OEMPs, respectively (refer to Section 22 of the EIS and Section 8 of this RtS).</p> <p>In addition, a number of mitigation measures would be considered to minimise idling of locomotives, including:</p> <ul style="list-style-type: none"> • Anti-idle policy and communication / training for locomotive operators 	

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> Unnecessary idling avoided through driver training and site anti-idle policy. <p>In addition to this, best practice has been further considered to reduce the impacts of the Proposal on the surrounding area. Appendix K of this RtS provides information on Best Practice to guide the on-going implementation of best practice for the Proposal to reduce noise and air emissions.</p>	
Noise and vibration impacts at Casula	<p>For the impacts on Casula to be adequately addressed, Casula needs to be viewed not as one receiver area but as two.</p> <p>Even then, the topography of Casula needs to be considered. Any reference to Casula noise impacts is quite meaningless, without reference to which part of Casula is being referred to.</p> <p>The northern end of Casula begins at the M5 (the South Western Motorway) extending about 1.5 kilometres south between the Hume Highway and the Georges River. About 125 metres further south (1.75 kilometres from the M5), the southern portion starts, extending a further 1.4 kilometres south from the intersection of Leacocks Lane and the Hume Highway.</p> <p>Within the southern area part of Casula, Leacocks Lane essentially follows the eastern edge of Casula following the ridgeline that overlooks the Georges River. At some time in the past, the river has cut into the eastern side of the ridge, creating a sharp drop-off to the river flats.</p> <p>Most of the modern suburb of Casula lies to the west and behind the ridgeline, and Leacocks Lane, BUT there are residences on the ridgeline overlooking Georges River, the rail</p>	<p>The NVIA, included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. All noise impacts presented in the NVIA for Casula are those at the most affected location within the catchment, thereby presenting a worst-case assessment for Casula.</p> <p>A revised rail noise assessment was undertaken for this RtS to refine predictions of impact of the Amended Proposal on L_{Aeq} rail noise at sensitive receivers, including those at Casula (refer to Section 7 and Appendix D of this RtS). The assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield farm respectively. The revised assessment predicted that Amended Proposal rail noise levels would generally comply with established NSW Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula (RM1). At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the</p>	<p>Section 8 and Appendix N of the EIS</p> <p>Section 7 and Appendix D of this RtS</p>

Aspect	Comment	Response	Reference
	<p>connection to the Precinct and to the Precinct beyond. "Glenfield Farm" is one of these residences.</p>	<p>Amended Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA $L_{Aeq, 15 \text{ hour}}$ and 60 dBA $L_{Aeq, 9 \text{ hour}}$ for daytime and night time, respectively.</p> <p>The modelling in the NVIA takes into account the topography of the study area, to a height resolution of 1 metre which is considered standard practice. The modelling provided in the EIS is therefore considered suitable to adequately assess the impacts of the Proposal on Glenfield Farm.</p>	
<p>Background noise monitoring at Casula</p>	<p>Any reference to the 'background' noise level of 'Casula' refers only to the northern end of Casula close to the M5.</p> <p>The environmental 'background' logging from the suburbs of Wattle Grove & Glenfield would give a far better indication of noise conditions around the southern portion of Casula than the 'Casula' measurement point.</p> <p>"Glenfield Farm" is only just over a kilometre about Precinct, and about 245 metres from the Rail Link to the Precinct.</p> <p>In Section 6.1 "Operational Noise Criteria" in Table 6-1, Page 24, the "Intrusiveness Criteria" indicates environmental 'background' noise levels for Casula to be 39 dB(A) by day, 39 dB(A) in the evening, and 33 dB(A) at night.</p> <p>These 'background' noise levels relates to the northern end of Casula, NOT to the southern end of Casula, around "Glenfield Farm".</p> <p>Based on viewing the data and years of environmental noise measurement, the environmental 'background' noise levels in the southern section of Casula (around "Glenfield Farm") are more likely to be 35 dB(A) by day, 35 dB(A) evenings, and 33 dB(A) at night.</p> <p>These lower, and more representative, 'background' noise levels (around "Glenfield Farm") will affect interpretation of</p>	<p>The Rating Background Levels (RBL) adopted for Casula in the NVIA are considered to be representative of the most potentially affected receivers in the catchment. It should be noted that the night time RBL for Casula identified in the NVIA, which establishes the most stringent criterion, is equal to that recommended in the submission provided by Glenfield Farm (i.e. 33 dB(A)).</p>	<p>Section 8 and Appendix N of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>acoustic impacts to this the southern portion of Casula and to “Glenfield Farm” in particular, for the assessment of compliance to:</p> <ul style="list-style-type: none"> • Construction noise impact limits • Operational noise impact limits • Rail noise impact limits <p>The continued use of these (what I believe to be) quite erroneous environmental ‘background’ noise levels renders any compliance or non-compliance assessment of this southern portion of Casula invalid.</p>		
Operational noise impact assessment	<p>Section 7 of the Noise & Vibration Assessment is quite confusing, as it mixes LAeq,15min noise levels with LAeq,period noise levels. The most important results to look for are the impacts under “Adverse” weather conditions. In winter, this area would be subject to the early morning Mittagong Drainage Flow, as chilled air from the Mittagong area flows through this area heading north into the western suburbs of Sydney, and where it merges with the Blue Mountain Drainage Flow and the Hawkesbury Drainage Flow, accumulating the depression between the Blue Mountains and the Prospect Ridge.</p>	<p>Section 7 of the NVIA (refer Appendix N of the EIS) presents separate assessments of operational noise against the intrusiveness (LAeq, 15min) and amenity (LAeq, period) criteria. These assessments consider the effects of meteorology in accordance with the Industrial Noise Policy.</p>	<p>Section 8 and Appendix N of the EIS.</p>
Operational noise impact assessment - Intrusiveness and Amenity Criterion	<p>The former, the LAeq,15min noise results, relates to noise “Intrusiveness” criteria, while the latter, the LAeq,period results, relate to “Amenity” criteria.</p> <p>The former is the current ‘background’ noise of an area PLUS 5 dB for limiting noise introduces in to the existing noise environment. The latter is a ‘cap’ on the noise growth within any area.</p>	<p>Section 7 of the NVIA (refer Appendix N of the EIS) presents separate assessments of operational noise against the intrusiveness (LAeq, 15min) and amenity (LAeq, period) criteria.</p> <p>Adopting the daytime intrusiveness criterion of 40 dBA for the southern region of Casula (including Glenfield Farm) would be inconsequential, as noted by the Author of the submission,</p>	<p>Section 8 and Appendix N of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>The change from LA90 noise levels to LAeq noise levels, in the 2000 Industrial Noise Policy document, introduced a whole set of problems to “Amenity” criteria. When measuring LAeq noise levels, it can be very easy for the readings to be contaminated by extraneous noise events in the immediate vicinity of the noise loggers.</p> <p>Care and experience is required to pick locations that minimise these extraneous noises.</p> <p>For suburban areas the “Amenity” noise limits are 55 dB(A) by day, 45 dB(A) evening, and 40 dB(A) at night.</p> <p>These limits are daytime ‘energy averaged’ over 11 hours (7 am to 6 pm), evening ‘energy averaged’ over 4 hours (6 pm to 10 pm), and night time ‘energy averaged’ over 9 hours (10 pm to 7 am).</p> <p>There is a procedure for calculating appropriate site specific LAeq,period limits to ensure the overall limits are not exceeded. These procedures appear to have been ignores.</p> <p>There appears to have been an assumption made that the Moorebank Precinct will be the only “industry” to occupy this area between these suburbs, and thus, it can take to whole LAeq,period allocation.</p> <p>In Section 7, the “Amenity” noise limits allowed appear as 54 dB(A) in the day period, 45 dB(A) in the evening period, and 40 dB(A) in the night time period.</p> <p>Meanwhile, the LAeq,15min “Intrusiveness” noise limits appear to have been set at 40 dB(A) by day, 40 dB(A) in the evening, and 37 to 38 dB(A) at night, for Glenfield & Wattle Grove, BUT at 44 dB(A) by day, 44 dB(A) in the evening, and 38 dB(A) at night, for any part of Casula.</p>	<p>however would require the establishment of two catchments in Casula. The delineation of “Casula North” from “Casula South” would not provide greater insight into potential noise impacts of the Proposal on this receiver catchment, and is therefore not considered necessary for the Proposal.</p> <p>The noise impact assessment and associated modelling provided in the EIS (Section 8 and Appendix N) is therefore considered suitable to adequately assess the impacts of the Proposal on Glenfield Farm.</p>	

Aspect	Comment	Response	Reference
	<p>It would be appear that for “Glenfield Farm”, and the southern portion of Casula, that far more appropriate LAeq,15min “Intrusiveness” noise limits would be noise limits of 40 dB(A) by day, 40 dB(A) in the evening, and 38 dB(A) at night.</p> <p>Despite the lack of any tabulated noise levels relevant to the “Glenfield Farm” area, there were noise contour plots in Appendix A (Figure A-1, Figure A-2, Figure A-3 & Figure A-4) that could be used to ascertain whether “Glenfield” Farm would be adversely affected by ‘general’ Operational Noise.</p> <p>The noise contour plots indicate that the impact on “Glenfield” Farm will be within acceptable levels, even with adjusted limits.</p>		
Construction noise impact assessment	<p>Any assessment of Construction Noise will need to take into account the actual noise levels in the southern part of Casula, particularly around “Glenfield Farm”, rather than assuming a measurement at the northern end of Casula is representative of the entirety of Casula.</p> <p>I would therefore suggest that the “first trigger point” close to the home at “Glenfield Farm” be LAeq,15min noise level of 54 dB(A) by day (7 am to 6 pm), and 45 dB(A) in the evening (6 pm to 10 pm), and 43 dB(A) at night (10 pm to 7 am) [weekdays].</p> <p>Despite the lack of any tabulated noise levels relevant to the “Glenfield Farm” area, the available information appears to indicate that the impact on “Glenfield” Farm will be within acceptable limits, even with adjusted limits.</p>	<p>As detailed above, the NVIA has been undertaken in accordance with relevant NSW Government guidelines and policies and the SEARs issued for the Proposal. As acknowledged by the Author of the submission, the suggested alternative approach to the assessment would not alter the findings of the NVIA.</p> <p>The NVIA, included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. All noise impacts presented in the NVIA for Casula are those at the most affected location within the catchment, thereby presenting a worst-case assessment for Casula.</p> <p>The noise impact assessment and associated modelling provided in the EIS (Section 8 and Appendix N) is therefore considered suitable to adequately assess the impacts of the Proposal on Glenfield Farm.</p>	Section 8 and Appendix N of the EIS.

Aspect	Comment	Response	Reference
Rail noise	<p>There appears to be a 'disconnect' within the EIS, between the "Acoustic" section of the EIS and the "Rail" section of the EIS.</p> <p>In Section 8.2 "Rail Noise Prediction Methodology" Page 39 of the Noise Impact Assessment prepared by Wilkinson Murray Pty Ltd is the following statement: "Between the Proposal site and the SSFL, it is expected that typical average trains speeds will be approximately 35 km/h, however the speed limit on the Rail link is 60km/h. Due to the relatively low train speeds, no corrections have been applied for turnouts and crossovers".</p> <p>In Section 2.1 "Rail Link" on Page 6 of the Rail Access Report (October 2016) prepared by AECOM Australia Pty Ltd is the following statement:</p> <p>The proposed rail alignment has been designed in accordance with ARTC standards to a design speed of 60 km/h, which is consistent with the design and operational speed of that section of the SSFL. The design speed was discussed and agreed with ARTC in order to allow a 1,800 metre long train to enter the rail Link at line speed from the SSFL, and be completely clear of the SSFL prior to the train slowing</p> <p>Whether this 60 km/h entry and exit speed to and from the SSFL was considered acoustically, is unknown. If the 1.8 km long trains are maintaining 60 km/h until the final wagon has left train the SSFL, it will only have the length of Moorebank Avenue to slow down.</p> <p>The southern area of Casula, and "Glenfield Farm", in particular, will be impacted by railway noise as freight trains enter and leave the SSFL "at speed".</p>	<p>As detailed in Section 4.4.2 of the EIS, the usual operating speed of trains on the Rail link and Rail link connection would be 35 km/hr, therefore this average speed was adopted in the NVIA. As the rolling noise from wagons does not decrease significantly with speeds below 50-60 km/hr, adopting an average speed of 35 km/hr is considered appropriate.</p> <p>The proposed alternative assessment of rail noise at Glenfield Farm is not consistent with the Rail Infrastructure Noise Guideline as it does not consider the existing noise levels from freight movements on the SSFL and Main Southern Line, and it fails to identify the Rail Link as a "Private Non-Network Rail Line". The noise impact assessment and associated modelling provided in the EIS (Section 8 and Appendix N) is therefore considered suitable to adequately assess the impacts of the Proposal on Glenfield Farm.</p>	Sections 4 and 8 and Appendix N of the EIS.

Aspect	Comment	Response	Reference
	<p>When locomotives and freight wagons are within the boundary of the Precinct, it is dealt with under the Industrial Noise Policy.</p> <p>Under the NSW Industrial Noise Policy, (INP) the noise limits are in terms of an LAeq,15min noise limit of 40 dB(A) [daytime], 40 dB(A) [evening] and 38 dB(A) [night]. As I understand this has already been addressed in the operational noise.</p> <p>When locomotives and freight wagons are outside of the boundary of the Precinct, it is dealt with under the Rail Infrastructure Noise Guideline.</p> <p>Under the NSW Rail Infrastructure Noise Guideline, (RING), the noise limits or “trigger levels” are in terms of a 15- hour LAeq,15hr noise limit of 65 dB(A) [daytime/evening], and 9- hour LAeq,9hr noise limit of 60 dB(A) [night], but only if the development increases the existing LAeq,15hr or LAeq,9hr by 2 dB (or more).</p> <p>A second set of “trigger points” are a LAFmax of 80 dB(A) from a new rail line development, or a LAFmax of 85 dB(A) from redevelopment of an existing line. These latter “trigger points” are of concern in terms of “sleep disturbance”.</p> <p>In Section 8.2.1 “Sources of Rail Noise”, Page 40 the “worst-case” 24-hour period is finally described as involving the following trains accessing the Precinct over a 24-hour period:</p> <ul style="list-style-type: none"> • Two trains (up to 900 metres in length), consisting of 1 locomotive and 38 wagons; • Two trains (up to 1,500 metres in length), consisting of 4 locomotives and 62 wagons; 		

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> Two trains (up to 1,800 metres in length), consisting of 4 locomotives and 74 wagons. <p>The Main South Line is about 220 metres from the “Glenfield Farm” residence.</p> <p>A recent review of commuter traffic through Casula Station indicates that daytime traffic consists of about 264 commuter trains between 7:00 am and 10:00 pm, and 46 trains between 10:00 pm and 7:00 am.</p> <p>Based on my own calculations, the home on “Glenfield Farm” would be exposed to a “day time” commuter train LAeq,15hr noise level of 48 dB(A) and a “night time” commuter train LAeq,9hr noise level of about 42 dB(A) for LAmix noise levels, both by day and by night, of 55 dB(A).</p> <p>Continuing my calculations, if I assume that two 1.8 kilometre freight trains enter the site within the night time period, then I use the “night time” LAeq,9hr noise limit of 60 dB(A).</p> <p>I estimate (using typical locomotive & wagon noise levels) that the component “night time” LAeq,9hr noise contribution, externally to the rear of the home at “Glenfield Farm”, would be about 56 to 58 dB(A). I also estimate the LAmix noise levels (externally) to be about 68 dB(A).</p> <p>These calculations are conditional on there being no anomalous noises being produced by the freight train or wagons.</p>		
Noise assessment along Leacocks Lane	There is a predicted LAeq,Period noise level to No. 77 Leacocks Lane, Casula, followed by an estimated noise level increase to the rear of a supposed residence at the Lot No. 21 Leacock Lane, Casula.	The NVIA, included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. All noise impacts presented in the NVIA for Casula are those at the most affected location within the	Section 7 and Appendix D of this RtS.

Aspect	Comment	Response	Reference
	<p>Two points to be noted are:</p> <ul style="list-style-type: none"> • Lot No. 21 Leacocks Lane is a vacant block of land. • No. 77 Leacocks Lane is actually No. 75-77 Leacocks Lane (being a set of townhouses). <p>These townhouses are on the western side of Leacocks Lane, within the 'acoustic shadow' of the ridgeline.</p> <p>The adjustment applied, between the townhouses at No. 75-77 and the supposed residence at Lot No. 22, appears to a guess, rather than any accurately calculated 'barrier effect' attenuation.</p> <p>The two (2) homes that should have been addressed were the homes located on Lot No. 22 (No. 88 Leacocks Lane) & Lot No. 23 No. 90 Leacocks Lane).</p> <p>"Glenfield Farm" (Lot No. 22) has an occupied home on it. The house on Lot No. 23 is also occupied.</p>	<p>catchment, which is located in the northern portion of Casula, thereby presenting a worst-case assessment for Casula.</p> <p>As demonstrated in the noise technical memo (noise) (refer to Section 7 and Appendix D of this RtS), updated rail noise modelling indicates that the $L_{Aeq,period}$ rail noise levels from the Amended Proposal would comply with the NSW Rail Infrastructure Noise Guideline (RING) criteria for "private non-network rail lines" in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula. Existing levels of rail noise have been established at a number of locations in Casula, including the area where the RING criterion is predicted to be exceeded. At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dBA, which is considered unlikely to be noticeable in the existing background noise levels and does not warrant mitigation. It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA $L_{Aeq, 15\text{ hour}}$ and 60 dBA $L_{Aeq, 9\text{ hour}}$ for daytime and night time, respectively.</p>	
Sleep disturbance	<p>Pages 42 & 43, talks about different ways of assessing 'sleep disturbance'.</p> <p>They first apply the approach indicated to Councils of a noise limit of 'background plus 15 dB'.</p> <p>My understanding is this is applicable where a short term noise event or short sharp sound intrudes on an otherwise bland 'background'.</p>	<p>The NSW Rail Infrastructure Noise Guideline (RING) specifies L_{Aeq} and L_{Amax} trigger levels for network rail developments, and also specifies separate L_{Aeq} trigger levels for private non-network rail developments.</p> <p>In the NVIA for the MPE Stage 1 EIS, which sought approval for the establishment of the Rail Link between the Intermodal Terminal and the SSFL, L_{Amax} rail noise levels from the Rail Link were assessed against the RING L_{Amax} criterion for a redevelopment on a network rail line. Following the exhibition of the MPE Stage 1 EIS, EPA made a submission requesting</p>	<p>MPE Stage 1 Project (SSD 14 6766).</p> <p>Section 8 and Appendix N of the EIS</p> <p>Section 7 and Appendix D of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>I have previously heard of this approach as being a way to deal with the ‘Startle Response’ caused by a short sharp sound.</p> <p>They then approach L_{Amax} noise levels from a road traffic noise approach where there is a ramping up and a ramping down of a noise event as a vehicle passes. The Road Noise Policy document advises that:</p> <ul style="list-style-type: none"> • Maximum internal noise levels below 50-55 dB(A) are unlikely to awaken people from sleep • One or two noise events per night, with maximum internal noise levels of 65-70 dB(A), are not likely to affect health and well-being, significantly. <p>I would suggest that an L_{Amax} noise limit (internally) of 55 dB(A) should be the appropriate limit to ensure sleep within the home at “Glenfield Farm” is not disturbed.</p>	<p>that L_{Amax} rail noise levels from the Rail Link be assessed in accordance with the INP Application Notes on sleep disturbance. The requested assessment was provided in a technical addendum, and the MPE Stage 1 Project was approved.</p> <p>In the NVIA for the Proposal, L_{Amax} rail noise levels from the Proposal were assessed in a consistent manner to those in the technical addendum provided to EPA for the MPE Stage 1 Project.</p> <p>The methodology applied for sleep disturbance aligns with NSW Government noise guidelines and has been developed in consultation with the NSW EPA. An external L_{Amax} noise levels above 65 dBA was adopted. As documented in the Noise technical memorandum accompanying this response to submissions (Section 7 and Appendix D of this RtS), the Proposal would potentially increase the number of L_{Amax} noise events above 65 dBA, at the most affected residential receiver, from 34 to 35 events per night. This increase in the number of L_{Amax} noise events above 65 dBA is considered to have a negligible discernible effect.</p>	
Inside/outside noise attenuation	<p>Having visited “Glenfield Farm”, and touring this home with the current owner, I was able to examine the architectural features of the home.</p> <p>The walls are of convict triple brick construction. The walls of the downstairs rooms have open vents, close to the ceiling, in each room.</p> <p>As I understand, the ceilings are of tongue & grove planking, with shingle roof above.</p>	Refer to above response regarding sleep disturbance.	<p>MPE Stage 1 Project (SSD 14 6766).</p> <p>Section 8 and Appendix N of the EIS</p> <p>Section 7 and Appendix D of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>Along the rear of the residence, the ceiling heights are lower allowing bedrooms below the roof.</p> <p>The upstairs bedrooms have pairs of dormer windows (each window about 1 m by 0.6 m) facing the Precinct and the railway lines.</p> <p>Having examined one of these upstairs bedrooms, I would estimate the 'inside to outside' noise attenuation with both dormer windows open to 50% of the window area, to be about 12 dB(A).</p> <p>For an internal L_{Amax} noise limit of 55 dB(A) inside these bedrooms, the external L_{Amax} noise levels should not exceed 67 dB(A) to 69 dB(A).</p> <p>It has to be noted that this is a 'heritage listed' building, so these windows would need to be open in summer to provide ventilation and some cooling</p>		
Wheel squeal	<p>As I understand, trains consisting of up to four locomotives, hauling up to 74 wagons will be entering the site at 60 km/h.</p> <p>On entering the site from the south, the locomotives and wagons will immediately find themselves entering a curve with a radius of less than 300 metres.</p> <p>The issue of 'wheel squeal' has been raised, but any discussion of this matter is immediately 'shut down'.</p> <p>'Wheel squeal' comes in a variety of mechanisms.</p> <p>As I understand, there is the type of 'wheel squeal' associated with braking, of braking block on wheel rim.</p>	<p>As detailed above, the methodology suggested by the EPA in their submission regarding sleep disturbance assessments has been adopted. As documented in Section 7 and Appendix D of this RtS), the Proposal would potentially increase the number of L_{Amax} noise events above 65 dBA, at the most affected residential receiver, from 34 to 35 events per night. This increase in the number of L_{Amax} noise events above 65 dBA is considered negligible.</p> <p>Additionally, regarding curve squeal, recently published research into rail squeal for freight movements in NSW (Hanson, D et al. <i>Curve Squeal: Causes, Treatments and Results</i>. <i>Internoise</i>, 2014) indicates that effective track grinding and lubrication, as proposed to be implemented for the Rail</p>	<p>Section 8 and Appendix N of the EIS</p> <p>Appendix D of this RtS</p> <p>MPE Stage 1 Project (SSD 14 6766).</p> <p>Section 8 and Appendix N of the EIS</p>

Aspect	Comment	Response	Reference
	<p>As I understand, there is the type of 'wheel squeal' associated with misalignment of wheel and rail.</p> <p>Then, there is the type of 'wheel squeal' associated with tight bends in the track, usually referred to as 'curve squeal'.</p> <p>This latter type of 'wheel squeal' is usually associated with bends of less than 300 metres radius.</p> <p>I would strongly advise the author of the Noise & Vibration Assessment to read "Modelling Curve Gain in NSW" Acoustics Australia (2015) 43:pgs 245-250.</p> <p>The study described within this paper was undertaken at Beecroft in Sydney. This study indicated that on tight curves (300 metres or less) that the measured SEL values (used to calculate the LAeq values) were about 8 dB(A) higher through these curves, than on straight sections of track</p> <p>This study also indicated that on tight curves (300 metres or less), that the LAmx noise levels were about 20 dB(A) higher through the curves than on straight sections of track.</p> <p>In October 2012, I undertook measurements of 'curve squeal' at Beecroft NSW on a curve of similar radius to the southern connection to the Southern Sydney Freight Line.</p> <p>On that occasion, I was able to measure a LAmx noise level of 108 dB(A) at 28.5 metres from track side.</p> <p>The sound was shrill and rapidly varying. It would appear that the paper published in 2015, essentially confirms my measurement from October 2012.</p>	<p>Link, eliminates more than 90% of squeal events (refer to Section 22 of the EIS and Section 8 of this RtS).</p>	<p>Section 7 and Appendix D of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>Should similar noise levels occur at Casula, the rear of the home at “Glenfield Farm” could expect L_{Amax} noise levels of up to 89 dB(A) external to the upstairs bedroom windows.</p> <p>The concern would be that even applying an inside / outside noise attenuation of 12 dB(A) to the external noise levels, the internal L_{Amax} noise level could be 77 dB(A) or greater. This is about 22 dB greater than the level likely to cause ‘sleep disturbance’.</p> <p>It is claimed that one or two noise events per night, with L_{Amax} noise levels of 65-70 dB(A), are not likely to affect health and well-being (significantly) but the predicted L_{Amax} noise level exceeds even this criterion by 12 to 17 dB(A).</p> <p>The common response would be “Well, close the window”.</p> <p>It may be possible to bring the internal levels down by closing windows but how much it could be reduced is limited by the Governor Macquarie era style window construction & by the Governor Macquarie style roof, neither of which can be altered.</p> <p>In a building of modern construction, closing the windows could be a solution, compensating for lack of ventilation and cooling by adding insulation into the roof cavity, and by installation of ducted air conditioning, but these were not features of a Governor Macquarie era residence.</p>		
‘curve’ squeal	<p>Another aspect of this type of ‘curve squeal’ is the nature of the sound. It is not a short sharp sound, that is here and gone in a moment.</p>	<p>Recently published research into rail squeal for freight movements in NSW (Hanson, D et al. <i>Curve Squeal: Causes, Treatments and Results. Internoise, 2014</i>) indicates that effective track grinding and lubrication, as proposed to be implemented in the Rail Link, eliminates more than 90% of</p>	<p>Sections 4 and 8 and Appendix N of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>It is a long, drawn-out, 'shrill' sound that varies in pitch and intensity, a sound that could continue for a couple of minutes each time a train enters or leaves the spur line.</p> <p>We've repeatedly been assured that track "oilers" will fix the problem.</p> <p>Despite numerous enquiries, including face-to-face questioning of those directly involved in research into this form of noise control, I have been unable to get any responses, as to the degree of noise reduction that can reliably be achieved, nor of the long-term 'guaranteed' minimum noise reduction produced by these devices.</p> <p>The nearest I have ever come to an answer was to ask the question, face-to-face, only to have the researcher literally turn and run.</p> <p>It has been my experience that unless a noise reduction device can be relied on to work with 100% effectiveness, 100% of the time, it is not acceptable as a noise reduction strategy. Another comment in the Noise & Vibration Assessment report was that "cross-over" noise did not need to be considered due to the slow speed of the trains.</p> <p>The Rail Access report says the trains will be travelling at 60 km/h. This begs the question:</p> <p>At what speed should "cross-over" noise be considered, and by how much will it alter the rail noise impacts upon "Glenfield Farm"?</p> <p>Proof is required that the any noise mitigation measures proposed for the Rail Link will, and do, work prior to their installation, and that they will continue to work long term.</p>	<p>squeal events (refer to Section 22 of the EIS and Section 8 of this RtS).</p> <p>As detailed in Section 4.4.2 of the EIS, the usual operating speed of trains on the Rail link and Rail link connection would be 35 km/hr, therefore this average speed was adopted in the NVIA. As the rolling noise from wagons does not decrease significantly with speeds below 50-60 km/hr, adopting an average speed of 35 km/hr is considered appropriate. At these speeds, cross-overs and turnouts are considered to have a negligible effect on receiver noise levels.</p>	

Aspect	Comment	Response	Reference
Noise criteria	<p>I would strongly recommend that a L_{Amax} noise limit of no more than 70 dB(A) be applied to noise emissions impacting on "Glenfield Farm". Should the noise contain additional component liable to cause additional annoyance, the limit should be reduced to no more than 60 dB(A). This should be in consideration of the historical significance of this home, and the restrictions placed upon it, associated with it being a heritage listed building.</p>	<p>The NVIA has been undertaken in accordance with relevant NSW Government guidelines and policies and the SEARs issued for the Proposal. Noise and vibration criteria applied to surrounding receivers for the Proposal have been retained from those presented in the MPW Concept Approval (SSD 5066). Glenfield farm, in acknowledging its standing and heritage listing, is assessed within the NVIA as a residential noise receiver within the Casula noise catchment, which is considered appropriate for the Proposal.</p>	<p>Section 8 and Appendix N of the EIS</p>
Noise monitoring	<p>I would strongly recommend that a noise logger be installed at No. 88 Leacocks Lane, this being "Glenfield Farm".</p> <p>This should occur sooner, rather than later, to close the 'glaring gap' in the circle of monitoring locations.</p> <p>I would strongly recommend that the results of any such noise logging be processed sooner, rather than later, and that they be included in this assessment, and any future associated assessment.</p> <p>I would strongly recommend that this noise logger become one of an array of noise loggers monitoring construction noise and later operational noise, in particular any noise associated with the construction of the Rail Link, and subsequent rail operations.</p> <p>Noise loggers / monitors are currently available that can operate independently on their own solar power supply, with real-time remote access, and with all data downloadable without the need to visit site.</p> <p>This minimises any need to physically visit the logger / monitor except for occasional calibration visits.</p>	<p>The NVIA, included in Section 8 and Appendix N of the EIS, has not identified Casula as a single receiver, but rather, as a receiver catchment. As shown in the EIS, Glenfield Farm has been assessed as a residential receiver within the Casula noise catchment.</p> <p>All noise impacts presented in the NVIA for Casula are those at the most affected location within the catchment, which is located in the northern portion of Casula, thereby presenting a worst-case assessment for Casula. This would be consistent with the approach adopted for historical and future noise monitoring (refer to Section 22 of the EIS and Section 7 of this RtS).</p> <p>A revised rail noise assessment was undertaken for this RtS to more accurately predict the impact of the Amended Proposal on L_{Aeq} rail noise at sensitive receivers, including those at Casula (refer to Section 7 and Appendix D of this RtS). The assessment included monitoring at three locations, including two representative of Leacocks Lane and Glenfield farm respectively.</p> <p>The revised assessment predicted that Amended Proposal rail noise levels would generally comply with established NSW</p>	<p>Sections 22, 8 and Appendix N of the EIS</p> <p>Section 7 and Appendix D of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>Rail Infrastructure Noise Guideline (RING) criteria for “private non-network rail lines” in Wattle Grove and Glenfield, but would exceed the night time criterion of 40 dBA by up to 4 dB in Casula (RM1).</p> <p>At this location, it is demonstrated that the Amended Proposal would result in an increase in the night time $L_{Aeq,period}$ rail noise level of less than 2 dBA, which is considered unlikely to be noticeable and does not warrant mitigation.</p> <p>It should be noted that the existing rail noise levels are greater than the contribution from the Amended Proposal, and they are below the RING criteria for a redeveloped rail line, which are 65 dBA $L_{Aeq, 15\text{ hour}}$ and 60 dBA $L_{Aeq, 9\text{ hour}}$ for daytime and night time, respectively.</p>	

Table 5-4: Glenfield Waste Services

Aspect	Comment	Response	Reference
General support for the Proposal	<p>On behalf of GWS, this letter provides strong general support for the approval and subsequent construction and operation of the Moorebank Precinct West Project (MPW Project), and specifically supports Stage 2 of the MPW Project</p> <p>The approval of the intermodal facility, with the southern rail option, provides a rare opportunity to provide for precinct-wide planning. Construction and operation of the Stage 2 MPW proposal would:</p> <ul style="list-style-type: none"> • Reduce truck freight from Port Botany; • Allow the integration with the existing rail network; 	Support for the MPW Project is appreciated.	N/A

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> Stimulate the local, regional and state economy; Provide significant employment opportunities; and Align with the comprehensive strategic directions set out by both the State and Federal Government. <p>Accordingly, GWS strongly supports the continued assessment and development of the wider Moorebank Intermodal Precinct.</p>		
Strategic need and justification	<p>The proposal is wholly consistent with strategic planning and transport policies as it will provide significant contribution to the key freight objective of the NSW Government which aims to increase the proportion of container freight being moved by rail from Port Botany to 28%. The MPW Project offers a solution, consistent with both State and National planning frameworks and strategies</p>	Support for the MPW Project is appreciated.	Section 3 of the EIS.
	<p><u>Consistency with 'Navigating the future' NSW Ports' 30 year master plan, 2015</u></p> <p>One of the five key objectives of the Plan is to grow rail transport of containers. The MIT Project is vital to meeting this key objective. The MIT Project is consistent with the notion outlined in the Plan that intermodal terminal containers that adjoin a warehouse centre are more efficient as they remove the need for containers travel on an external network.</p>	Agreed and noted.	Section 3 of the EIS.
	<p><u>Consistency with 'A Plan for growing Sydney' (2014)</u></p> <p>Direction 1.5 of A Plan for Growing Sydney identifies the need to enhance capacity at Sydney's gateways and freight networks. Moorebank IMT will play an important role in the broader freight network, allowing for greater movements of freight by rail and assisting to reduce road congestion, especially around Port</p>	Agreed and noted.	Section 3 of the EIS.

Aspect	Comment	Response	Reference
	<p>Botany. Moorebank IMT is also consistent with a priority of its South-West subregion, to protect infrastructure of metropolitan significance including intermodal terminals.</p>		
	<p><u>Consistency with the State Infrastructure Strategy and update, 2012 and 2014</u></p> <p>Properly targeted transport investments reduce congestion costs for freight and logistics industries, with the provision of intermodal terminals such as the MIT Project playing a crucial role. The MIT Project is identified as a key infrastructure NSW recommendation under the strategic direction of international gateways.</p>	<p>Agreed and noted.</p>	<p>Section 3 of the EIS.</p>
	<p><u>Consistency with the NSW Freight and Ports Strategy</u></p> <p>The MPW Project is a key component in the NSW Freight and Ports Strategy. The NSW Freight and Ports Strategy outlines that the Moorebank Precinct will provide much needed freight transport network capacity and employment opportunities in South West Sydney.</p>	<p>Agreed and noted.</p>	<p>Section 3 of the EIS.</p>
	<p><u>Consistency with the NSW Long Term Transport Master Plan</u></p> <p>Chapter 7 focuses on supporting efficient and productive freight, including an action to implement rail freight infrastructure enhancements to increase the share of freight carried on the rail network. Metropolitan IMTs are identified as critical to increasing the share of container freight moved by rail and to manage growing import container trade, particularly in Sydney. The Masterplan acknowledges the ability of rail to reduce congestion, with the focus on the freight catchment in south-west Sydney, where the Moorebank Precinct is to be located.</p>	<p>Agreed and noted.</p>	<p>Section 3 of the EIS.</p>

Aspect	Comment	Response	Reference
	<p><u>Consistency with NSW 2021: A plan to make NSW number one, 2011</u></p> <p>A key target of NSW 2021 is to enhance rail freight movement, including doubling the proportion of container freight movement by rail through NSW ports by 2020. This is to be achieved especially through Port Botany, which the Moorebank Precinct would support.</p>	<p>Agreed and noted.</p>	<p>Section 3 of the EIS.</p>
	<p><u>Consistency with the Draft subregional strategy for the South West Subregion, 2009</u></p> <p>Moorebank Precinct is recognised as a key component for both Sydney's intermodal capacity needs and to help meet the goal of increasing rail freight movements from Port Botany. The development of Moorebank Precinct would provide jobs during both construction and operation for West and South-West Sydney.</p>	<p>Agreed and noted.</p>	<p>Section 3 of the EIS.</p>
	<p><u>Consistency with the Australian Infrastructure Plan 2016</u></p> <p>The MIT Project is aligned with the AIP's strategic priorities of 'increasing Australia's productivity' and 'expanding Australia's productive capacity'. This was determined in a business case assessment which was undertaken by the MIT Project.</p>	<p>Agreed and noted.</p>	<p>Section 3 of the EIS.</p>
	<p><u>Consistency with the National Land Freight Strategy 2011 and 2012</u></p> <p>The National Land Freight Strategy includes the MIT Project as a case study, capable of accommodating increases in container trade at Port Botany while delivering \$10 billion in economic benefits including improved productivity, reduced business costs, reduced road congestion and better environmental outcomes.</p>	<p>Agreed and noted.</p> <p>As described in Section 3, and from a strategic perspective, the introduction of the MPW Project (and the Amended Proposal) would result in a number of wider regional and interstate benefits including:</p> <ul style="list-style-type: none"> • The MPW Project would help reduce the potential increase in regional freight movements along the M5 Motorway between 	<p>Section 3 of the EIS.</p>

Aspect	Comment	Response	Reference
		<p>Port Botany and Moorebank Avenue, thereby easing the Port Botany bottleneck enabling the Port to cope with future growth and provide largescale freight capacity</p> <ul style="list-style-type: none"> • Transfer of road haulage between NSW Ports and Western Sydney to rail freight for redistribution thereby helping to reduce traffic congestion and providing improved efficiency for the Sydney road network • Reductions in articulated truck volumes through the Sydney CBD and inner city suburbs, on the M4 Motorway and the M5 Motorway east of the Moorebank Avenue interchange. The changes in articulated truck volumes on the regional Sydney road network would be reductions in heavy vehicle movements between NSW Ports and Moorebank, thereby relieving the regional Sydney road network of articulated vehicular traffic • An increase in articulated truck flows, particularly on the M7, Hume Highway and Mamre Road south of the M4 Motorway as well as the M5 Motorway between Moorebank Avenue interchange and the M7 Motorway • Reductions in vehicle operating costs for heavy vehicles (i.e. vehicle-kilometres-travelled (VKT) and vehicle –hours travelled (VHT)) on the regional road network • Reductions in vehicle emissions, and subsequently greenhouse gas emissions, resulting from a change in mode share from road to rail. <p>The unit costs of transporting containers by rail for IMEX and interstate markets would be reduced, which would lead to an increase in the share of freight movements by rail. This would therefore improve productivity, reduce operating costs, increase</p>	

Aspect	Comment	Response	Reference
		reliability, reduce costs associated with road damage, congestion and accidents, and lead to better environmental outcomes	
	<p><u>Consistency with the National Ports Strategy 2011</u></p> <p>The Strategy provides background to the growth of the south-west area of Sydney, including increasing freight demand and the need for IMTs to maintain the rail modal share of container freight from Port Botany. The development of MPW Project is aligned with the aims of the National Ports Strategy.</p>	Agreed and noted.	Section 3 of the EIS.
	<p><u>National Infrastructure Priorities 2009</u></p> <p>The MIT Project was identified under the infrastructure objective of 'Competitive international gateways' as one of the 'Priority Infrastructure Pipeline projects with real potential'. The aim of this infrastructure objective is to "develop more effective ports and associated land transport systems to more efficiently cope with imports and exports". The development of the IMT at Moorebank would improve the efficiency of land transport systems, which aligns with core objectives of the National Infrastructure Priorities.</p>	Agreed and noted.	Section 3 of the EIS.
Proposal benefits	An IMT at Moorebank would respond to Sydney's need for more freight handling capacity as the Proposal would enable more containerised freight to be moved by rail. The Stage 2 proposal would specifically facilitate the delivery of infrastructure to achieve increased rail freight movements. The proposal would assist in providing a shift from road to rail. This shift is necessary to help reduce truck movements on already constrained road networks throughout Sydney. Easing the Port Botany bottleneck would enable the Port to cope with future growth and provide large scale	Agreed and noted.	Sections 3 and 23.1 of the EIS.

Aspect	Comment	Response	Reference
	freight capacity. Freight movement around Australia is expected to grow by 3.6% per year over the next 20 years.		
Economic and Employment	<p>The costs of transporting containers by rail for interstate markets would be reduced, leading to an increase in the share of freight movements by rail. The increase in freight movements by rail would contribute to improved productivity, a reduction in operating costs, increased reliability, a reduction in costs associated with road damage, congestion and accidents whilst leading to better environmental outcomes.</p> <p>Further, the provision of 215,000m2 GFA of warehousing will directly attract industrial and business development to Moorebank, and create a landuse development that will complement the employment role of the Liverpool and Campbelltown CBD's.</p> <p>The Moorebank Precinct would result in the creation of approximately 570 jobs during the peak construction period of the Proposal and 1,265 staff for the operation of the warehousing area and the IMT facility operations. This provides a key employment opportunity for the surrounding residential community, promotes close to home work opportunities.</p>	<p>Noted.</p> <p>During peak construction, there would be a construction workforce of about 570 personnel. The Proposal is estimated to result in the creation of 1,265 jobs during operation. This is expected to include 40 positions related to the operation of the IMT, 1,200 related to the operation of warehousing, and 25 related to operation of the freight village on the Proposal site.</p>	Section 3 of the EIS.
Community and environment	<p>It is considered that this redevelopment will provide environmental benefits by way of:</p> <ul style="list-style-type: none"> • A net reduction in GHG emissions from the change in freight distribution totalling a saving of 1,472 tCO₂-e/year; • Reducing congestion and heavy vehicle movement along the M5 Motorway between Port Botany and Moorebank, which in turn leads to reduced noise levels, air pollution and fuel consumption; and 	Agreed and noted.	Sections 7, 18 and 20.4 and Appendix M of the EIS.

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> The site provides an appropriate buffer zone between residential areas, and does not preclude development of public recreation facilities along the Georges River. 		

Table 5-5: Liverpool Action Group

Aspect	Comment	Response	Reference
Location of the Moorebank Precinct	A proposed container terminal at Moorebank, confined to the loop of the Georges River, is the wrong place for many reasons.	The MPW Concept Approval (5066) granted by the PAC on 3 June 2016, approved the use of the site for the MPW Project. The location of the MPW Project, and use of the site, are not subject of the development application for Stage 2 of the MPW Project.	Section 3 of the EIS.
Cost of constructing the Proposal	Huge expense to provide the infrastructure of roads, rail, warehousing and terminal buildings.	The Proposal is to be funded by both SIMTA and MIC. A capital investment value for the Proposal has been provided in Section 1.1 of the EIS. The Proposal proposed an upgrade to the Anzac Road and Moorebank Avenue intersection which, while providing the new access point to the Proposal, will also be the primary contribution to the local road infrastructure upgrades. The proponent of the Proposal will contribute to the costs of infrastructure upgrades in accordance with regulatory frameworks.	Sections 1.1, 7 and Appendix M of the EIS.
Traffic impacts	Impossibly long delay times for traffic in the already busiest network in Australia.	AnOTTIA has been undertaken for the Proposal (refer to Section 7 and Appendix M of the EIS). The traffic assessment undertaken concluded that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network taking into consideration the proposed mitigation measures, upgrades and the regional road network improvements suggested to be undertaken by Roads and Maritime to cater for the growth in background traffic.	Section 7 and Appendix M of the EIS.
Socio-economic impacts	Pollution of smog, noise and visual with resulting erosion of property values.	There are a range of physical, geographical, structural and social factors that affect property values at a local, regional and State scale. The EIS has demonstrated that impacts on local	Sections 8, 9, 15, 20.5 and 22 of the EIS.

Aspect	Comment	Response	Reference
		<p>amenity are manageable within the assessment criteria managed by the NSW EPA, and as such are not considered likely to affect property values.</p> <p>The presence of an actual development in accordance with the land use zoning (ie IN1 industrial), such as the Proposal, is not expected to affect property values, particularly given that potential environmental impacts that may contribute to property values have been demonstrated throughout the EIS to be either temporary for the duration of construction or minor in nature.</p>	
Biodiversity	An already severely degraded environment will become non-existent killing thousands of flora and fauna.	<p>It should be noted that the Proposal will not involve the killing of thousands of flora and fauna. The BAR provided in Appendix Q and summarised in Section 11 of the EIS provides an assessment of potential impacts to fauna and flora species, communities and habitats.</p> <p>The ecological values of the Proposal site have been identified and assessed in the EIS, and biodiversity-related impacts, including fauna habitat components that offer sheltering, foraging, nesting and roosting habitat to a variety of fauna. Impacts of the Proposal on these ecological values will be managed through the implementation of appropriate mitigation measures (refer to Section 22 of the EIS and Section 8 of this RtS).</p> <p>Further, a Biodiversity Offset Package is to be prepared to offset the loss of ecological values as a result of the whole MPW Project, including the loss of threatened ecological communities, threatened flora and threatened fauna habitat in accordance with the NSW Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects (OEH, 2014). This BOP would be subject to DP&E approval.</p>	<p>Sections 11, 22 and Appendix Q of the EIS.</p> <p>Section 8 of this RtS</p>
Proposal justification	It is unlikely that any investors in the project will profit even in the long term.	<p>As discussed in Section 3 and 23.1 of the EIS, the purpose of the Proposal is to improve the distribution of freight travelling from Port Botany, and regional areas of NSW/Australia. The Proposal would support and contribute to a modal shift from road to rail with containers travelling from Port Botany via the Southern Sydney Freight Line (rail) rather than the arterial road network. Ultimately, the Proposal would improve efficiency of goods transferred to the Western and South-Western regions of Sydney and for this reason is considered to an economically viable investment for the Proponent. It should be noted however, that this is not a relevant consideration for the purposes of s 79C of the EP&A Act.</p>	Sections 3 and 23.1 of the EIS.

Table 5-6: Moorebank Heritage Group

Aspect	Comment	Response	Reference
<p>Relationship with MPE</p>	<p>The MPW Stage 2 Proposal and EIS Study Area addresses the MPW Project in isolation to The MPE Project. This may well be in regard to land ownership and financial and business agreements and the like it, however, does not sit with the development and implementation of a heritage interpretation strategy.</p> <p>We are concerned that the heritage interpretation of the MPW site will potentially not be complete or inclusive, without the consideration of the area beyond its boundaries; being the broader Moorebank Cultural Landscape, in particular the phases of land use and occupation of the former Liverpool Field Training Area and the Moorebank Subdivisions.</p> <p>These themes incorporate both the MPW and MPE sites that, individually and collectively, share a common and connected history.</p>	<p>Section 1.4 of the EIS provides a brief overview of the Proposal and the relationship with the MPE Project. As discussed, the MPW site (MPW Concept Approval – SSD 5066) and MPE site (MPE Concept Plan Approval – MP 10_0193) are subject to separate approvals. Notwithstanding this, based on the agreement with MIC, SIMTA is responsible for the delivery of the Moorebank Precinct (both the MPE Project and MPW Project). Generally, the separate project approvals require separate deliverables for the Moorebank Precinct.</p> <p>Section 17 of the EIS assesses the impacts of non-Indigenous heritage associated with the construction and operation of the Proposal. In particular, Section 17.3.3 identifies and assesses the impacts of the Proposal on existing heritage items such as the Moorebank Cultural Landscape. This assessment, informed through specialist investigations detailed in Appendix V of the EIS, was undertaken with consideration of the MPE Stage 1 assessment findings (refer to Section 3.2.6 of Appendix V). This assessment also considers the numerous phases of land use and occupation spanning from pre-European settlement to today relating to the Moorebank area, which includes primarily the MPW site, considered within the context of the heritage interface with the MPE site.</p> <p>The issue of a combined heritage assessment approach for the two precincts was further discussed during a meeting with the Moorebank Heritage Group on 2 November 2016 (refer to Section 2 of this RtS for further meeting details). It was agreed during this meeting that the interpretation strategies for both MPW (to be prepared during Early Works) and MPE (to be prepared prior to Stage 1 Works) would form separate documents, however, heritage interpretation would be considered holistically across both sites. It was also noted during this</p>	<p>Sections 17 and Appendix V of the EIS.</p> <p>Appendix V of the EIS.</p> <p>Section 2 of this RtS.</p>

Aspect	Comment	Response	Reference
		<p>meeting that an overarching detailed Heritage Interpretation Plan for both sites (to be prepared during detailed design) would be considered. It is intended to periodically consult with Moorebank Heritage Group as appropriate throughout this process.</p>	
Historical reporting	<p>Of note is the potential trap of heritage interpretation strategies being too reliant on previous studies and online listings. None of the heritage reports used as source documents appear to have included consultation with the local historical societies or the wider Army community. In doing so:</p> <ul style="list-style-type: none"> • The social significance to current and former military personnel and families has not been captured • The gaps that currently appear in the historical recording of the MPW Project site may have been averted, and appropriately addressed earlier in the process • That the recent discovery of the overarching Moorebank Cultural Landscape and its management would have been implemented in the early stages of the MIT project, that is several years ago 	<p>Source documents used for the assessment undertaken for the EIS (Appendix V) include:</p> <ul style="list-style-type: none"> • ERM (2013) <i>Moorebank Unit Relocation (MUR) Project: Steele Barracks, NSW, Heritage Impact Assessment</i>. • Navin Officer Heritage Consultants (NOHC) (2014a) <i>MPW Concept Plan EIS, European Heritage Assessment Technical Paper</i>. • NOHC (2014b) <i>Moorebank Intermodal Terminal (Stage 1, Early Works) Chapter 21 – European Heritage Assessment</i> prepared for Parsons Brinckerhoff (PB). • NOHC (2014c) <i>School of Military Engineering Steele Barracks, Moorebank NSW. Cultural Heritage Archival Recordings</i>. Appendix K to the MPW Concept Approval Response to Submissions • Further documentation of heritage items for MPW Stage 1 (Early Works) conducted by NOHC and PB, including archival recording reports and structural assessments of both the RAAF STRARCH Hangar and CUST Hut. • Artefact (2014) MPE Stage 1 Non-Indigenous heritage impact assessment report prepared by Artefact Heritage. <p>Consultation has been undertaken progressively throughout the MPW Project with the Department of Defence (DoD) relating to heritage significance on the MPW site. In particular, the Moorebank Units Relocation Project (MUR (EPBC 2012/6462)), although outside the scope of the MPW Project, was considered in preparation of the</p>	<p>Section 6 and Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p>

Aspect	Comment	Response	Reference
		<p>assessment undertaken for the Proposal. A key part of the MUR Project involved consultation by DoD with DoD stakeholders regarding the removal and relocation of 18 heritage items from the MPW site to the Holsworthy Barracks. Ultimately, these items were selected based on their social value (i.e. association with current and former Defence personnel).</p> <p>Discussions with DoD were continued and built upon throughout the MPW Concept Approval (SSD 5066), which included mitigation measures to include photographic archival recording of all items of Commonwealth, State and local significance remaining onsite following the MUR Project.</p> <p>Consultation with DoD for the MPW Concept Approval resulted in mitigation recommendations including consideration of options for the retention and/or relocation and adaptive reuse of the CUST Hut and RAAF STRARCH Hangar, along with identification of the Moorebank Cultural Heritage Landscape and many of its constituent elements as having significance against both the NSW and Commonwealth Heritage Listing (CHL) assessment criteria.</p> <p>Further consultation was undertaken with DoD as part of Early Works. This resulted in the tendering of the CUST Hut and STRARCH Hangar. This process included newspaper adverts placed in prominent newspapers in June 2016, calling for expressions of interest from groups who may want to remove the structures and adaptively reuse them on another site. A number of groups within Defence (Australian Army History Unit, the Australian Army Flying Museum, SME) were consulted on the treatment of these two items. In an email, SME (DoD) in October 2016, indicated they do not have a requirement for using these structures. Other army groups, although requesting further information, did not commit to using the items.</p>	

Aspect	Comment	Response	Reference
		Further consultation with Defence for the Proposal would be undertaken periodically to discuss amongst other aspects heritage management.	
STRARCH hangar	<p>The fact that a former officer of the Royal Australian Engineers (RAE) invented the design of the Strarch Hangar has not been mentioned in any of the heritage reports. Its inventor Capt Lewis Ronald (Lew) Harding served with the Corps during WWII and this association adds to the structure's significance to the RAE and the SME.</p> <p>The Moorebank Heritage group submission included a brief biography of Captain Lewis Ronald (Lew) Harding</p>	<p>This information is noted, and the current approach to assessment of impact and mitigation assessment associated with this item is considered suitable. As mentioned in Section 17.1 of the EIS, the RAAF STRARCH Hangar is listed as an archaeological feature remaining onsite. This structure was one of two structures left remaining on the SME site following the MUR Project. The significance of the STRARCH Hangar was documented in the MPW Concept Approval EIS (Commonwealth, State and Local significance), and was included as a key item in the photographic archival report undertaken by Navin Officer for the MPW Concept Approval (Appendix K of MPW Concept Approval Response to Submissions).</p> <p>A condition inspection report was undertaken for the STRARCH Hanger in October 2014 as part of the MPW Concept Approval to assess the suitability of the structure for adaptive reuse onsite. It was concluded that given the Hangar's structural condition, and design life, it was not practical or feasible to retain the item on site for use for warehousing or terminal operations.</p> <p>In accordance with MPW Concept Approval Mitigation Measures for Early Works, consideration of treatment options for these structures resulted in the tendering of the CUST Hut and STRARCH Hangar. This process included newspaper adverts placed in prominent newspapers in June 2016, calling for expressions of interest from groups who may want to remove the structures and adaptively reuse them on another site. No interested parties were identified during this process. Further consultation in October 2016 with SME indicated that they do not have a requirement for using this structure.</p>	<p>Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p> <p>Recordings Report (Appendix K) for the MPW Concept RtS</p>

Aspect	Comment	Response	Reference
		<p>Subsequently, further discussions with the Moorebank Heritage Group on October 13 included consideration of options to using components of this structure for integration into a heritage interpretation feature (non-structural) of the site, which would be considered in the Heritage Interpretation Plan for the site.</p>	
Titalka Park	<p>Titalka Park will be lost through the planned MPW site works. Its history, as yet, appears to have not been fully researched or recorded.</p> <p><i>‘As the story goes ... Capt Penny, a Gallipoli veteran, based at 2 Base Ordnance Depot, Moorebank in August 1949 won £6,000 in a lottery with a ticket named ‘Titalka’. Penny claimed ‘Titalka’ was an Aboriginal word meaning happiness. It is said that Penny donated some of his winnings to assist with the establishment of Titalka Park although there appears to have been no official recognition made at the opening of the park in November 1949.’</i></p>	<p>Section 21.2 of the MPW Concept EIS outlines the historical context of the Proposal, detailing key dates of European development associated with the MPW site. Titalka Park is identified within this report as occurring in an area of Potential Archaeological Deposit (MHPAD1). A mitigation measure for the MPW Concept Approval for Early Works includes that no impacts are to occur within the boundaries of MHPAD1 without prior archaeological salvage.</p> <p>Further historical context of the Titalka Park area is provided in Section 21.2.3 of the MPW Concept Approval EIS. Titalka Park is identified in 1940 as being SME’s first location at Moorebank, otherwise known as the Base Administration Support Centre (BASC). The BASC is identified as the area extending south of Bapaume Road and west from Moorebank Avenue through to the Georges River, with Titalka Park identified specifically in the north-eastern corner of this BASC precinct. The buildings of the 1940’s that once stood in this area included the Drill Hall, former Officers’ Mess and the Sergeants’ Mess. General Descriptions of these buildings are discussed in detail in Section 5.1 of the MPW Concept EIS (Technical Paper 11).</p> <p>‘Titalka’ is recommended as a commemorative name as per REMM13B, outlined in Section 17 of the EIS. This is further reiterated by the mitigation measure (10B) included in Section 22 of the EIS and Section 8 of this RfS.</p>	<p>Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p>

Aspect	Comment	Response	Reference
Moorebank Cultural Landscape	<p>The EIS (p.33) assesses the significance level of the Moorebank Cultural Landscape as Commonwealth and Local.</p> <p>We believe, however, that it is potentially of State significance as briefly its Non-Indigenous heritage includes:</p> <ul style="list-style-type: none"> • Evidence of the patterns of emigration, settlement, and peopling of the Australian continent. • Agriculture and rural land uses, including orchards, poultry farms, vineyards, vegetable gardens (including Chinese gardeners), race horse breeding, and cattle. • Associations to Thomas MOORE (1762---1846). • Associations to Major Henry Colden ANTILL (1779---1852). • Associations to the LONG family, William LONG (1797---1876) and William Alexander LONG (1839---1915). • Association to convicts, in particular in the construction of Liverpool Weir, those assigned to Thomas Moore, and of his wife Rachael (nee Turner) who was herself a convict, and William Long. • Chipping Norton Soldier Settlement Area. • Colonial to pre-1912 military use / Easter Training Camps. 	<p>As identified in Section 17.3 of the EIS, the Moorebank Cultural Landscape has been assessed as being of local heritage significance.</p> <p>This finding was informed by a significance assessment of key items against NSW assessment criteria, within the European Heritage Impact Assessment (Technical Paper 11) undertaken by Navin Officer Heritage Consultants as part of the MPW Concept EIS. The consideration of additional heritage items raised would not alter the findings of this assessment, however would be considered as part of the Heritage Interpretation Plan, to be prepared for the Proposal.</p> <p>Notwithstanding this, it should be noted that the Heritage Council declined to pursue the listing of the MPE site on the State Heritage Register.</p>	<p>Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p> <p>European Heritage Impact Assessment (Technical Paper 11) MPW Concept EIS</p> <p>Cultural Heritage Archival Recordings Report (Appendix K) for the MPW Concept RtS</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • Church of England / Church of England Property Section. • Liverpool Field Training Area / Liverpool Manoeuvre Area Demonstrates the nature of the relationship between Australia and Britain at the turn of the 20th Century. • Kitchener House (Arpafeelie) c1895 • The area is evidence of the State Government's and private initiated exploratory drilling programs for coal reserves in the greater Sydney basin during the late 1880s to 1890s. Coal at the time was in much demand for shipping and rail transport, industry and domestic purposes. • Liverpool Army Field Hospital • Liverpool to Holsworthy Military Railway • Moorebank Scramble Track • Location of former significant manufacturing entities including Cable Makers, Chiswell Furniture, and Standard Telephones and Cables (STC). • The Chain of Ponds that stretched from the Georges River (from the former SME site) to Chipping Norton were a number of freshwater ponds that provided both Indigenous and European settlers with fresh water as the Georges River was tidal and the water quality brackish up until the Liverpool Weir was constructed in 1836. 		

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • Liverpool Weir, (listed on the NSW State Heritage Register ID: 01804), was constructed by convicts in 1836 as the tidal limit of the Georges River. One of the first 'engineered' weirs built in the colony, it was designed by David Lennox, master mason, Superintendent of Bridges for the colony of NSW and Australia's first major bridge builder. • Old Illawarra Road • Haigh and Son Wool Scour c1868. 		
Photographic archival recording	<p>We note that a requirement of the SEARs in Part 10(a)(iii) Historic Heritage is that:</p> <p><i>'Mitigation measures should include ... photographic archival recording ... of buildings on the site.'</i></p> <p>Our enquiry to the Department of Planning and Environment as to whether or not this requirement has been completed was met with the following response (NSWP&E Email dated 8 November 2016):</p> <p><i>'The Department of Planning and Environment is yet to receive this report'</i></p> <p>This situation is of great concern to us as many of the heritage items listed in Proposal Non-Indigenous HIA at Table 4: Items in ERM (2013) Heritage Impact Assessment for MUR Project, page 19, have already been either partially demolished or relocated.</p>	<p>The MUR Project (EPBC 2012/6462) included a program of relocation and management of a range of previously identified heritage items on the MPW site. This program is separate and distinct from the impact mitigation measures associated with the Moorebank Intermodal Terminal Project, yet is important to note when outlining the extent of photographic archival recording undertaken for the site as part of Early Works.</p> <p>The European Heritage Assessment, undertaken for the MPW Concept Approval (Technical Paper 11), included photographic archival recording for all items of Commonwealth, State and local significance remaining onsite following the MUR Project as a mitigation measure. This included the following items:</p> <ul style="list-style-type: none"> • CUST Hut • RAAF STRARCH Hangar • RAE Museum and Australian Army Museum of Military Engineering Collections • B99 	<p>Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p> <p>European Heritage Impact Assessment (Technical Paper 11) MPW Concept EIS</p> <p>Appendix K of the MPW Concept RtS</p>

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • Dog Cemetery (MH1) • Commemorative Gardens (MH6) • Remaining elements of the RAE Chapel <p>A report was subsequently prepared by Navin Officer Heritage Consultants (2014) for the MPW Concept Approval - Response to Submissions Report (Appendix K – Cultural Heritage Archival Recording), which was submitted to DP&E.</p> <p>Mitigation measures for the Proposal, as outlined in Appendix V for the EIS, includes an Options for Mitigation Report to be prepared prior to the commencement of Early Works. This report ensures that consideration of these key items, including previous studies, historical knowledge and other information is included in the pursuit of mitigation and management options to be implemented at the site.</p>	
Land ownership – Moorebank Avenue	It is our understanding the Liverpool City Council owns that part of Moorebank Avenue between Anzac Road and the M5, and not RMS as stated in the Proposal Non-Indigenous HIA, p.8.	As outlined in Section 7.3 of the EIS, the portion of Moorebank Avenue between M5 and Anzac Road is owned and maintained by Liverpool City Council.	Section 2 of the EIS.
Heritage interpretation strategy – general	<p>As mentioned in Section 1 [of the Moorebank Heritage Group submission]: Relationship with MPE, the planned heritage interpretation is scattered across the two project sites, fragmenting the storytelling. Limitations to the heritage interpretation, include:</p> <ul style="list-style-type: none"> • It is very generic in nature and not tied to overarching themes, stories, places, views or buildings 	The MPW Concept Approval included a number of Revised Environmental Mitigation Measures (REMMs) to be implemented during future development phases, including the Proposal. REMM 13E (refer to Appendix A of the EIS) states: <i>A European heritage interpretation strategy would be developed in close consultation with local historical societies, former and current staff and military personnel.</i> It is noted that comments submitted regarding specific content of the Heritage Interpretation Strategy (HIS) should be directed through the consultation process initiated in accordance with this REMM (refer to Section 2 of this Rts).	Appendix A of the EIS Section 2 of this Rts

Aspect	Comment	Response	Reference
		<p>With regard to the above, a draft approach to interpretation was discussed at a community consultation meeting with the Moorebank Heritage Group on 2 November 2016 to discuss key themes and stories suitable for interpretation that are representative of the history of the site. Recent discussions with DP&E has identified the potential for a precinct-wide approach for heritage interpretation for the two sites. This could be reflected through common information to the two precincts included within interpretation strategies, similarities in interpretation approaches, and potentially a precinct-wide Heritage Interpretation Plan.</p>	
	<ul style="list-style-type: none"> That, as a consequence, the themes, stories, and people associated with the MPW site appear to have not been explored sufficiently to develop meaningful strategies 	<p>Themes, stories and people associated with the MPW site considered through the interpretation process would continue to be explored through ongoing consultation with relevant heritage groups and agencies, and consideration of historical information presented throughout the following documentation:</p> <ul style="list-style-type: none"> EIS, Appendix V MPW Concept Approval EIS (Technical Paper 11) MPW Concept Approval Response to Submissions (Appendix K). 	<p>Section 17 and Appendix A of the EIS.</p> <p>Appendix V of the EIS.</p> <p>Section 2 of this RtS</p> <p>Appendix K of the MPW Concept RtS</p>
	<ul style="list-style-type: none"> Onsite interpretation elements have limited access and exposure to the general public. It seems the main exposure is directed towards the employees and casual visitors to the MPW site 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p> <p>Notwithstanding the above, it should be noted that the MPW site was previously not publicly accessible due to the military use of the site,</p>	<p>Appendix A of the EIS</p> <p>Section 2 of this RtS</p>

Aspect	Comment	Response	Reference
		<p>and therefore this historical information has, generally, only been available to the public via records rather than physical features. Due to the industrial nature of the Proposal site and the associated security requirements, public access is proposed to be limited and audiences specifically defined (i.e. workers and authorised visitors) for the Proposal. The approach to heritage management is therefore considered to improve upon the previous exposure and provide both onsite elements in the most frequented and publicly visible area of the site and, more importantly an improved online medium for the wider public to access. This dual approach would be considered to improve the public's accessibility to the history of the MPW site.</p>	
	<ul style="list-style-type: none"> No audience development has apparently been undertaken 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p> <p>Notwithstanding this, categories for offsite interpretative features would be specifically defined to maximise engaging and informative experiences from interpretive media. Offsite audiences would include aboriginal groups and individuals with a connection to the area, along with the local community, local history groups, military history enthusiasts and secondary school history students.</p>	<p>Appendix A of the EIS Section 2 of this RtS</p>
	<ul style="list-style-type: none"> Proposed interpretation elements such as external hoardings / fencing / sound wall could be largely ineffectual as Moorebank Avenue has limited parking opportunities. It would be very difficult for passers-by travelling in motor vehicles to absorb 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p>	<p>Appendix A of the EIS Section 2 of this RtS</p>

Aspect	Comment	Response	Reference
	<p>information. It also attracts limited pedestrian / cycle traffic</p>	<p>Notwithstanding the above, the integration of interpretative media into site structures facing Moorebank Avenue or Casula (such as the noise wall or external hoardings) has not been confirmed and is one of several options being considered for heritage interpretation. This comment is noted and would be considered during the preparation of the detailed Heritage Interpretation Plan for the site. It should also be noted that any interpretative structure selected would not be designed to attract road users or members of the public to enter the site, and would consider road safety aspects associated with interpretation.</p>	
	<ul style="list-style-type: none"> The proposed web-based site apparently has no permanent host, a limited timeframe (2 years), and is not interactive 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p> <p>Notwithstanding this, a website has been proposed as a potential offsite interpretive device as it can be easily accessed, can provide information effectively and can be promoted with relatively little effort. The website proposed would potentially be managed by SIMTA during the life of the development of the site and during site operations, with details to be confirmed through the MPW Heritage Interpretation Plan for the precinct.</p>	<p>Appendix A of the EIS Section 2 of this RtS</p>
	<ul style="list-style-type: none"> The Australian Army Museum of Military Engineering based at Holsworthy, whilst it is an exceptional facility is it only a Corps museum, and therefore does not tell the whole story of the Liverpool Field Training Area or the overarching Moorebank Cultural Landscape. 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p>	<p>Appendix A of the EIS Section 2 of this RtS</p>

Aspect	Comment	Response	Reference
		<p>While it is noted that the AAMME does not tell the whole story, this facility is purpose-built to collect, preserve and exhibit the history of the Australian Army Engineer and Survey Corps, and serves as a significant opportunity to preserve the military history of the area, including that associated with the MPW site (including items for the MUR Project).</p> <p>Notwithstanding the above, the proposed interpretation strategy for the MPW site is not solely reliant on the AAMME for preservation of heritage value, as reflected through the various onsite and offsite interpretive options to create a sense of place and history and to provide access to the wealth of information about the area.</p>	
	<ul style="list-style-type: none"> The Museum also does at times encounters access and security issues, and prospective visitors from the general public can not simply 'drop in' without prior arrangements being in place 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p> <p>This comment is not related to the scope of this Proposal.</p>	<p>Appendix A of the EIS Section 2 of this RtS</p>
	<ul style="list-style-type: none"> It is School of Military Engineering-centric. During WWII the Royal Australian Engineer Corps occupied the site, later establishing the School of Military Engineering. Whilst this is a significant event, it is only one thread of the layered history of the MPW Project site in respect to the wider Moorebank Cultural Landscape, in particular the former Liverpool Field Training Area and the Moorebank Subdivisions 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p> <p>Notwithstanding, the significance of the SME to the site, with respect to other significant events including (but not limited to) the former Liverpool Field Training Area is documented in Appendix V of the EIS and would be considered in the heritage interpretation of the MPW site.</p>	<p>Appendix A of the EIS Section 2 of this RtS</p>

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> Archival recording of the area north of the former School of Military Engineering, (and within the MPW Project site) is very limited. This is very evident from the historical background summary for the Proposal site (EIS: Table 17-3, pps 472-473 Arcadis 2016) that only mentions 'Engineers at Moorebank' occupying the MPW Project site from WWII and onwards. In doing so, the EIS has overlooked such land uses and military occupants as: 	<p>As outlined above, submissions specifically regarding the content of the HIS are to be considered and addressed through the separate consultation process, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS and Section 2 of this RtS). It is therefore not seen as appropriate to address this concern within the EIS or this RtS.</p> <p>Notwithstanding, a further detailed account of the known historical background and occupation during this time-period is provided in Appendix V of the EIS. This report was prepared by Navin Officer Heritage Consultants (2014) for the MPW Concept Approval - Response to Submissions Report (Appendix K – Cultural Heritage Archival Recording), which was submitted to DP&E.</p> <p>As outlined above, archival recording was undertaken for key items remaining on the MPW site following the MUR Project, as stipulated in the MPW Concept Approval EIS. The MUR Project included removal and relocation of 18 items located both within the former SME site and MPW site.</p> <p>Mitigation measures for the Proposal, as outlined in Appendix V for the EIS, included an Options for Mitigation Report to be prepared prior to the commencement of Early Works. This report provides the mechanism for consideration and recording of key items, through assessing previous studies, historical knowledge and other information is included in the pursuit of management options to be implemented at the site.</p>	<p>Appendix A of the EIS</p> <p>Section 2 of this RtS</p>
	<ul style="list-style-type: none"> The Liverpool Army Field Hospital constructed in November 1915 (and possibly the first purpose-built home hospital commissioned for the WWI efforts) 	<p>This item is no longer physically tangible and salvageable on the MPW site. The significance of this item is noted and would be considered during the preparation of the Heritage Interpretation Strategy (HIS) for</p>	<p>Appendix A of the EIS</p>

Aspect	Comment	Response	Reference
		the Precinct, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS)	
	<ul style="list-style-type: none"> - The Army Motorcycle Training Area used for the training of Despatch Riders and Military Police during WWII. This track was later licenced in 1953 under the former Speedway Act. It was the venue for Club, State and National Championships and the first Channel 9 outdoor TV broadcast 	The significance of this item is noted and would be considered during the preparation of the Heritage Interpretation Strategy (HIS) for the Precinct, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS)	Appendix A of the EIS
	<ul style="list-style-type: none"> - The occupation of the Old Hospital Block by the Darwin Mobile Force (1938-39) prior to mobilisation, and the School of Artillery during WWII. 	The significance of this occupation is noted and would be considered during the preparation of the Heritage Interpretation Strategy (HIS) for the Precinct, in accordance with REMM 13C for the Proposal (refer to Appendix A of the EIS)	Appendix A of the EIS
	<ul style="list-style-type: none"> - Titalka Park 	This item was recognised in the MPW Concept EIS, as outlined above.	
	<ul style="list-style-type: none"> - Other Army Units and Departments, and their forerunners), associated to the MPW Project site, for example occupied the MPW Project site at some time, used services on the site (like the Area Officers' and Sergeants' Messes), were quartered on-site in Officers' and other ranks accommodation, or provided services: <ul style="list-style-type: none"> ▪ Royal Australian Infantry Corps (Colonial to present) ▪ Royal Australian Armoured Corps (WWII Training Facilities) Royal Australian 	These Army Units and Departments mentioned here are not physically represented through tangible items or structures remaining onsite, therefore archival recording is not possible outside of documentation of their involvement in the site. These groups have been noted and will be subject to consideration during the preparation of the Heritage Interpretation Strategy for the MPW site.	N/A

Aspect	Comment	Response	Reference
	<p>Regiment of Artillery (from Colonial times, WWII Training Facilities)</p> <ul style="list-style-type: none"> ▪ Royal Australian Signal Corps (WWII Training Facilities) Royal Australian Corps of Transport ▪ Royal Australian Army Service Corps --- Supply and Logistics (disbanded) ▪ Royal Australian Intelligence Corps (Provided trainers to SME etc) ▪ Royal Australian Survey Corps (Raised from the Corps of RAE, disbanded then reverted back to RAE) ▪ Royal Australian Army Chaplains Department (Provided ministering for all units, RAE Chapel) ▪ Royal Australian Army Medical Corps (Provided medical services at the various Regimental Aid Posts (RAPs) and hospitals) ▪ Royal Australian Army Nursing Corps (Provided staff to the hospitals and RAPs) ▪ Royal Australian Army Dental Corps (Provided dental services at the various RAPs and hospitals) ▪ Royal Australian Army Ordnance Corps (2 BOD (forerunner of DNSDC)) 		

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> ▪ Royal Australian Army Education Corps (Provided trainers to the various schools) ▪ Royal Australian Army Pay Corps (Raised from the Corps of RAE) ▪ Royal Australian Electrical and Mechanical Engineers Australian Army Catering Corps (Provided catering staff to all the messes and field training operations) ▪ Army Instructional Corps (Disbanded) Royal Australian Corps of Military Police ▪ Women's Royal Australian Army Corps (previously known as the Australian Women's Army Service - provided staff for all non-combat roles from 1939 to 1985) 		
Heritage interpretation – assigning appropriate and sufficient significance	<p>The high level of historical and social significance of the MPW and MPE Project sites, and their shared and connected history to the former Liverpool Field Training Area and the overarching Moorebank Cultural Landscape demands more recognition than through the commemorative naming of a handful of streets, buildings and rail bridge, and the incorporation of some components of the heritage structures into interpretative media as recommended as Mitigation Measures in the EIS.</p> <p>Examples of these strategies are:</p> <p><i>'Continued commemoration of significant events and individuals ... through the naming of buildings, streets, and the rail bridge proposed for</i></p>	<p>The interpretive approach proposed is in accordance with recommended Mitigation Measures prescribed in the EIS, and are seen as the most effective form of heritage management in the context of the nature of the previous and proposed use of the MPW site.</p> <p>As outlined above, given the recent and current use of the site and restrictions regarding public access, the approach is designed to enhance onsite exposure in the most publicly frequented and visible areas of the site, while improving informational access and quality through an online medium (proposed website).</p> <p>Furthermore, there is a limited ability to retain items on site. As outlined in Section 17 of the EIS, adaptive reuse of onsite items was explored, yet it was concluded that these options were not practical or feasible.</p>	<p>Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p>

Aspect	Comment	Response	Reference
	<p><i>construction as part of the Project.</i> (Proposal Report: REMM 13B page 172 Arcadis 2016)</p> <p><i>'Interpretative commemoration utilising materials/elements from the building [Strarch Hangar and CUT Hut]</i> (Proposal Report: REMM 13M page 175 Arcadis 2016)</p> <p>'... consideration of commemorative signage within the MPW site.' (EIS: Section 17.1.4 p.469 Arcadis 2016)</p>		
Heritage interpretation – dedicated outdoor interpretation centre	<p>The swell of interest created by the centenary of WWI, in particular in family history has brought the Liverpool Field Training Area into prominence, as it was the largest training facility in Australia with tens of thousands of servicemen passing through its gates on their way to serve overseas.</p> <p>Similarly, thousands of sappers have worked, trained and quartered at Steele Barracks.</p> <p>Advice we have been given is that there is no site available on the MPW Project site for a dedicated space for a small, centralised interpretative centre. It was indicated that smaller interpretative installations are to be 'scattered' throughout the MPW site.</p> <p>We understand the same HIS process will be undertaken for the MPE site next year. We, therefore, wonder if any consideration has been given to a combined HIS as previous indicated as the original land acquired by the Commonwealth for the Liverpool Field Training Area in 1913 encompassed both sites.</p>	<p>While an objective of the overarching Heritage Interpretation Strategy for the MPW site is to present ways of transmitting messages about the cultural heritage values of the site to visitors and other audiences through interpretation, it should be reiterated that the intended use of the site is for an Intermodal Terminal. This means that we would not be encouraging members of the public to physically enter the site for the sole purpose of viewing the interpretive media. The concept of a centralised 'interpretation centre' is not considered to be conducive with the use of the site as an intermodal terminal.</p> <p>Discussions regarding combining the precincts to deliver a combined precinct-wide detailed Heritage Interpretation Plan are outlined in responses above. Themes and stories developed in consultation with key stakeholders, including recognition of the common themes between the two sites, would be developed further and presented in the Heritage Interpretation Plan. This plan would detail specific sites, areas and media for interpretation.</p> <p>Themes and stories associated with the former Liverpool Field Training Area, and an associated interpretive piece to commemorate fallen Army staff who dies during WWI would be considered in the Heritage</p>	N/A

Aspect	Comment	Response	Reference
	<p>They have remained in Defence ownership for over 100 years before being transferred to facilitate the Moorebank Intermodal Terminal Project, and as mentioned previously they essentially share a common and connected history.</p> <p>The MPW and the MPE sites are two of the last remaining opportunities for the full story of the former Liverpool Field Training Area to be interpreted and articulated.</p> <p>Its high level of significance demands that the interpretation approach:</p> <ul style="list-style-type: none"> • Captures all the tangible and non-tangible values • Creates a sense of history and place • Is a physical destination, a place for gatherings, with public access and toilet facilities, and parking • Provides a place for contemplation and reflection • Allows for further installation of memorials and interpretative signage • Is a lasting legacy ... something that SIMTA and its partners, our former and current service personnel, and the wider community can be proud <p>Of note ... The Moorebank Heritage Group has compiled a list of approximately 45 enlisted men and</p>	<p>Interpretation Strategy developed for the MPW site.</p>	

Aspect	Comment	Response	Reference
	<p>Army staff who died in the Liverpool Field Training Area during WWI.</p> <p>We would like to initiate a memorial to these men (some of whom never received a War Graves Commission headstone).</p> <p>There is a similar memorial erected in recognition of the servicemen who died at the Ingleburn Camp during WWII, located at the Ingleburn Military Heritage Precinct.</p>		
Noise and vibration impacts to Kitchener House	<p>We note that at Appendix N Noise and Vibration Impacts of the EIS, that no specific construction and operational noise and vibration impacts were considered or assessed for Kitchener House.</p>	<p>As outlined in the MPW Concept EIS (Section 21), Kitchener House was a Federation Cottage used by Lord Kitchener in 1910 to review the status of the Australian Army. The building is located outside of the Proposal site, and is understood to be privately owned and currently unoccupied.</p> <p>In response to various submissions received for this RtS, a revised Noise and Vibration Technical Memorandum has been developed to further assess the potential for vibration impact on Kitchener House (refer to Appendix D of this RtS), which, subsequent to design development is established as a vibration sensitive receiver. The assessment investigates Kitchener House for potential impacts arising from the construction of the Amended Proposal in accordance with relevant international standards for vibration impacts on historic buildings.</p> <p>As established previously in the NVIA for the Proposal (refer to Appendix N), safe working distances in TCA (2012) have been developed specifically to satisfy the requirements of the EPA's vibration guideline – Assessing Vibration: a technical guide (DECCW, 2006) as requested by the SEARs. At the time of preparing the NVIA, no sensitive buildings or land uses had been identified within the safe</p>	<p>Section 8 and Section 17 of the EIS.</p> <p>Appendix N and Appendix V of the EIS.</p>

Aspect	Comment	Response	Reference
		<p>working distances, of the identified construction plant, for cosmetic damage or human response, respectively.</p> <p>The findings of the Noise and Vibration Technical Memorandum indicate that activities most likely to generate vibration at Kitchener House would be the use of vibration-intensive equipment for road works along Moorebank Avenue, namely the use a vibratory roller.</p> <p>Based on the construction footprint for works on Moorebank Avenue, there is potential for construction plant to be operated approximately 20 metres from Kitchener House, which, depending upon the type and size of plant, could come within the safe working distance of Kitchener House. Recommendations have been made for more detailed investigations of the current condition and vibration sensitivity of Kitchener House, and for a more detailed assessment of potential vibration impacts to be completed as part of the CEMP for the Proposal (refer to Section 8 of this RtS for additional mitigation measures).</p>	
Recommendations	<p>1. That consideration is given to a broader heritage interpretation approach that looks at both sites, and addresses the significance, history and connections to the surrounding area and the overarching Moorebank Cultural Landscape.</p> <p>2. That the interpretative content is balanced, and reflective of the earlier time periods as well as the more recent military history of the MPW and MPE Project sites.</p> <p>3. That the historic reporting is reviewed to reflect the abovementioned details for the Strach Hangar, Titalka Park and the Moorebank Cultural Landscape.</p>	<p>1. Recent discussions have also been undertaken with the Department of Planning, who have indicated they are amenable to a precinct-wide approach for heritage interpretation for the two sites. This is to be reflected in the Heritage Interpretation Strategy for the MPE site (currently being drafted at the time of writing) to contain significant information concerning the MPW site and similarities in the interpretation approaches for the two precincts. It is also intended to combine the two sites into a precinct-wide Heritage Interpretation Plan.</p> <p>2. A draft approach to interpretation was discussed at a community consultation meeting with the Moorebank Heritage Group on 2 November 2016. Specifically, it was noted that a balanced approach would be undertaken, reflective of the range of time periods associated with the site. The interpretive content to be included into the Interpretation Heritage Strategy for the Proposal, and detailed further in</p>	<p>Section 17 of the EIS.</p> <p>Appendix V of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>4. That this SEARs requirement is followed up, in particular the photographic archival recording of the 20 items listed in Proposal Non-Indigenous HIA at Table 4: Items in ERM (2013) Heritage Impact Assessment for MUR Project, page 19 being:</p> <ul style="list-style-type: none"> • Burma -Thai Cross • Headstone of Lt Hodgson • Bell and bell tower • Hanging plant containers, Chapel • Baptismal font, Chapel • Altar chairs, Chapel • Three badges on front of Chapel • Sandstone in the walls of the Chapel and plaques • Clive Steele Memorial Gates • The service dog cemetery • The Commanding Officers' Walk • Australian Panel Bridge • Bailey Bridge • Heavy Girder Bridge • Steele Bridge • The RAE Memorial and Fountain 	<p>the Heritage Interpretation Plan would acknowledge the extensive timeline of activities and occupations associated with the site in continued consultation with relevant stakeholders.</p> <p>3. Source documents used in the preparation of assessment reports (MPW Stage 2, MPW Concept Approval, MPW Concept Approval Response to Submissions), as discussed, provide a detailed history on the significance of these items, reflected through the Mitigation Measures prescribed</p> <p>4. As outlined in Section 3.2.5 of Appendix V of the EIS, the items listed refer to those subject to removal and relocation under the MUR Project. All but two of these items (the STRARCH Hangar and the CUST Hut) were removed and impacts associated with these items are outside of the scope of this Proposal. In accordance with MPW Concept Approval Mitigation Measures for Early Works, consideration of treatment options for these structures resulted in the tendering of the CUST Hut and STRARCH Hangar to interest groups who may be interested in adaptively reuse of these structures. An ad was placed in a number of prominent newspapers in June 2016 asking for expressions of interest, which did not yield an interested party.</p> <p>Further email correspondence was made in October 2016 to SME, who indicated they do not have a requirement for using these structures, and from a number of Army groups, including the Australian Army History Unit, the Australian Army Flying Museum requesting further information, however none of the interested parties committed to using the items.</p> <p>5. Photographic archival recording undertaken for the Proposal is consistent with the approach developed and approved for the MPW Concept Approval. This includes the archival recording for items of Commonwealth, State and Local significance remaining onsite, not already undertaken under the MUR Project. These items included:</p>	

Aspect	Comment	Response	Reference
	<ul style="list-style-type: none"> • The Vietnam Veterans' Memorial and associated plaques • RAE Corps Museum wall and collection • CUST Hut • Strarch Hangar 	<ul style="list-style-type: none"> • CUST Hut • RAAF STRARCH Hangar • RAE Museum and Australian Army Museum of Military Engineering Collections • B99 	
	<p>5. That Archival Photographic Recording is also undertaken of the former Steele Barracks main entry guardhouse, in particular the walls constructed of sandstone from the former Keighran's Mill c1855 that was located at Bow Bowing, and the guardhouse lining bricks recycled from the former Pump House, Woolwich Docks.</p>	<ul style="list-style-type: none"> • Dog Cemetery (MH1) • Commemorative Gardens (MH6) • Remaining elements of the RAE Chapel <p>6. Archival recording of significant items is provided in the Cultural Heritage Archival recordings report, Appendix K for the MPW Concept EIS, publicly available via the Department of Planning's Major Projects website.</p>	
	<p>6. That once received a copy is deposited for safekeeping with the Australian Army Museum of Military Engineering at Holsworthy.</p>	<p>7. As discussed, the approach for heritage interpretation was discussed through meetings with both the Department of Planning and the Moorebank Heritage Group, and would potentially result in a combined precinct-wide detailed Heritage Interpretation Plan for the two sites (to be confirmed). This approach would seek to build on the information already presented throughout the EIS and Concept Approval documentation to develop onsite and offsite interpretive components that aptly represent the Moorebank Cultural Landscape.</p>	
	<p>7. The scale and scope of the interpretation strategies needs to address and reflect the tangible and intangible values of the MPW and MPE sites in the broader context of the Moorebank Cultural Landscape, in particular the former Liverpool Field Training Area and the Moorebank Subdivisions.</p>	<p>8. Duplication of 7</p>	
	<p>8. The scale and scope of the interpretation strategies needs to appropriately reflect the significance of the MPW and MPE Project sites in the context of the</p>	<p>9. As discussed, consideration of an interpretive centre for the potential combined precinct plan is unlikely to be included in the detailed Heritage Interpretation Plan for the site. The Proposal is located on a</p>	

Aspect	Comment	Response	Reference
	Liverpool Field Training Area and overarching Moorebank Cultural Landscape	secure site, that would be frequented by heavy machinery, trains and trucks during daily operations. We therefore would not seek to actively encourage members of the public to visit the site to witness memorial sites in a centralised location.	
	9. That consideration is given to a single centralised interpretative centre located within the boundaries of the former Liverpool Field Training Area	10. Consideration for incorporating an outdoor interpretation centre into the Georges River Master Planning Process out of scope for this RtS and not under the Proponent's control. Material required for such an investigation is publicly available and would be undertaken on land that is under Council's control, as per the recommendation regarding Kitchener House (item 12).	
	10. That consultation is undertaken with the Liverpool City Council to investigate the possibility of a centralised outdoor interpretation centre being incorporated in the Georges River Master Planning process, (and including the possibility of Helles Park)	11. As discussed, the approach for heritage interpretation was discussed through meetings with both the Department of Planning and the Moorebank Heritage Group, and would potentially result in a combined precinct-wide detailed Heritage Interpretation Plan for the two sites (to be confirmed).	
	11. That if Recommendation 2.3.2 can not be achieved, that consideration is given to a combined interpretative strategy that includes both the MPW and MPE Project sites, located within either of these sites, and that incorporates relocation of part of the Strach Hangar or CUST Hut if no other feasible option has been found for these structures	Discussions regarding onsite heritage interpretation with the Moorebank Heritage Group on October 13 have included consideration of options to using components of this structure for integration into a heritage interpretation feature (non-structural) of the site, which would be considered in the Heritage Interpretation Plan for the site	
	12. That as an alternative option the feasibility of Kitchener House as being an interpretative centre is investigated. (The property has been vacant for some time. Its condition is steadily deteriorating through the lack of basic maintenance and conservation works)	12. Kitchener House is located outside of the MPW site and is not owned by SIMTA. It is therefore outside the scope of the Proposal. This consideration would need to be raised by Liverpool City Council or another authority.	
	13. That the existing eastern road alignment of Moorebank Avenue is maintained and that no impact is made to the lot size, curtilage and setting of Kitchener House	13. As outlined in Section 7 of the EIS, intersection alterations would be made to the Moorebank Avenue and Anzac Road intersection and the Road would be modified slightly to allow for these works. Design drawings for the Proposal indicate that works to Moorebank Avenue	

Aspect	Comment	Response	Reference
	<p>14. That the noise and vibration impacts associated with construction and operational activities are specifically assessed for Kitchener House</p>	<p>would not impede Kitchener house cadastral boundary or curtilage of Kitchener house.</p> <p>14. A revised Noise and Vibration Technical Memorandum has been developed to further assess the potential for vibration impact on Kitchener House which, subsequent to design development, is established as a vibration sensitive receiver (refer to Appendix D of this RtS). The assessment investigates Kitchener House for potential impacts arising from the construction of the Proposal in accordance with relevant international standards for vibration impacts on historic buildings.</p>	

Table 5-7: Action for Public Transport (NSW)

Aspect	Comment	Response	Reference
Cumulative assessment	We note that the project is being planned and assessed in stages, making it difficult to appreciate the end result from the plans available at such an early stage in the process.	<p>An assessment was undertaken by Parsons Brinkerhoff (2014) as part of the MPW Concept EIS to consider the cumulative impacts of the MPW Project with the impacts of the adjoining MPE Project and other surrounding developments. The assessment considered each Project cumulatively at full build.</p> <p>Since the preparation of the MPW Concept EIS, the cumulative impact scenario has changed, as more up-to-date information about the construction and operation of the MPW and MPE Projects have become available.</p> <p>The assessment of cumulative impacts in the EIS considered updated construction and operational cumulative scenarios which aligned with more up-to-date information regarding the Proposal and surrounding developments, including the MPE Stage 1 Project, Early Works (approved as part of the MPW Concept Approval) and Glenfield Landfill. The construction cumulative scenario has taken account of activities overlapping within the vicinity of the Proposal site according to scheduling information. These activities include the final stages of Early Works activities, the construction activities associated with the Proposal, and the latter stages of MPE Stage 1 construction activities.</p> <p>The operational cumulative impact scenario considers the Proposal operating at 500,000 TEU throughput combined with the MPE Stage 1 Proposal operating at 250,000 TEU throughput, incorporating a total of 750,000 TEU throughput for the two sites running concurrently.</p> <p>The Glenfield Recycling Facility (Materials Recycling facility) Proposal was issued with SEARs in December 2013 (SSD 13_6249). Cumulative assessment modelling has considered the constraints presented by this development where applicable.</p> <p>As the design and environmental assessment of the MPW Project progresses through each stage of the MPW Concept Approval, the cumulative construction and operational scenario would be revisited and more detailed</p>	Sections 1 and 19 of the EIS. Section 8 of this RtS

Aspect	Comment	Response	Reference
		<p>and up-to-date information regarding potential environmental impacts and their impacts will be assessed to provide as much up-to-date information about cumulative impacts as possible.</p> <p>The cumulative impact assessment provided in the EIS included an assessment of the impacts of the Proposal, which concluded that the mitigation measures identified for the Proposal would effectively mitigate the cumulative construction and operational scenarios (refer to Section 22 of the EIS and Section 8 of this RtS), based on the information available at that time.</p> <p>Subsequent stages of approval for the MPW Project will provide further detail on each respective stage as it aligns to the approval of the project as a whole under Concept Approval (SSD 5066).</p>	
Proposal support	<p>However, we repeat our 2014 submission (available at http://aptnsw.org.au/cgi-bin/item.cgi?20141208Mon131453.txt) which stated our strong support for adequate intermodal terminals on Sydney's outskirts. We look forward to similar projects elsewhere in outer Sydney in due course because the best way to take heavy long-distance trucks off the road is to provide competitive rail transport.</p>	Support for the Proposal and MPW Project is appreciated.	N/A

Table 5-8: Ryde – Hunters Hill Flora and Fauna Preservation Society

Aspect	Comment	Response	Reference
Strategic need and justification	<p>We express our serious concern that this development proposal is being considered prior to the adoption of the South West District Plan, a draft document of which has just been placed on exhibition by the Greater Sydney Commission (GSC). We urge that this proposal be rejected until it can satisfy</p>	<p>The EIS did not consider the draft South West District Plan (the District Plan) as it was released in November 2016 whereas the EIS went on public exhibition in October 2016. Regardless, consideration of the Proposal in the context of the District Plan is provided below.</p> <p>The District Plan sets out a vision, priorities and actions for the development of the South West District of Greater Sydney. The District Plan notes that the proposed priorities and actions for a productive South West District draw significantly from the opportunity of the</p>	Section 3 of the EIS

Aspect	Comment	Response	Reference
	<p>the intent of the GSC's planning vision for Sydney.</p>	<p>Western Sydney Airport and the development of the Western City, which will significantly influence land use patterns, and associated investment which will drive job growth.</p> <p>The overarching productivity priorities of the District Plan are:</p> <ul style="list-style-type: none"> • Creating a framework to deliver the Western City • Integrating land use and transport planning to drive economic activity • Planning for job target ranges for strategic and district centres • Growing and diversifying the economic opportunities of the District's strategic centres • Growing jobs in the health and education sectors • Coordinating infrastructure planning with population growth – enhancing local access • Strengthening the diversity of employment choice. <p>The Proposal is considered to be consistent with these overarching priorities as follows:</p> <ul style="list-style-type: none"> • Integrating land use and transport planning to drive economic activity would be achieved through the co-location of the intermodal terminal and warehousing • The Proposal would provide employment throughout construction and operation (i.e. approximately 570 construction personnel would be required during the peak construction period of the Proposal and approximately 1,265 staff during operations) • The Proposal would utilise the locality's connections to major port and freight facilities. <p>A number of productivity actions identified in the District Plan are specifically relevant to the Proposal, as follows:</p> <ul style="list-style-type: none"> • P19: Identify and plan for efficient movement of freight to, from and within the District, with least impact on residents' amenity: <p><i>In the long term, freight and logistics activities in the District will be supported by:</i></p> <p><i>1.1. Moorebank Intermodal Terminal – Stage 1 currently under construction</i></p>	

Aspect	Comment	Response	Reference
		<p><i>Several freight corridors also need to be considered in addition to the Western Sydney Airport's expected logistics and servicing requirements. The NSW Government will continue to plan for suitable east-west and north-south rail and road corridors to link the Western Sydney Airport to Port Botany and Port Kembla.</i></p> <ul style="list-style-type: none"> • P20: Provide adequate access to and from the Moorebank Intermodal Terminal, which would result in improved freight transport connectivity: <p><i>The Moorebank Intermodal Terminal, including a freight terminal with a shuttle to Port Botany, is due to open by July 2017. The terminal will increase Greater Sydney's rail freight capacity, reduce freight on the road network and link to the Australian Rail Track Corporation national rail freight network.</i></p> <p><i>Transport for NSW will work with local government and other stakeholders to plan for adequate access to and from the Moorebank Intermodal Terminal, including north-south road connections on the east side of the rail line from the M5 Motorway to the M31 Hume Motorway and new roads and bridges over the river and rail line. This work will be considered in planning for the Liverpool collaboration area.</i></p> <p>The Proposal, through the development of an IMT facility and associated warehousing in Moorebank, would directly support the productivity priorities detailed in the District Plan, particularly P19 and P20, and is therefore considered to be consistent with the District Plan.</p>	
Strategic need and justification	The GSC aspires to a productive, liveable and sustainable greater Sydney by 2056. We have no confidence that this ambitious vision will be achieved if government development occurs outside the parameters of a strategic planning framework. The combined impacts of multiple staged major developments such as the Moorebank Intermodal must be captured within the strategic planning process initiated by the GSC. It is imperative	<p>The Moorebank Intermodal Terminal is captured within, and aligned to the principles, priorities and actions identified within the Greater Sydney Commission's (GSC) Draft South West District Plan (November 2016) (District Plan).</p> <p>The Department of Planning and Environment (DP&E) document <i>A Plan for Growing Sydney</i> (December 2014) identified Principle 2 as stronger economic development in strategic centres and transport gateways and Principle 3 as connecting centres with a networked transport system stating that "Centres rely on efficient transport to serve their customers, supporting their growing business and freight functions, and to connect to the global economy."</p>	Section 3 of the EIS.

Aspect	Comment	Response	Reference
	<p>that there be due consideration of the recently released draft District Plans as part of the consideration of this development.</p>	<p>The Proposal is aligned to and supports these principles which have been affirmed within the District Plan as “remaining current and underpinning many of the priorities” within the District Plan.</p> <p>The Greater Sydney Commission’s (GSC) Draft South West District Plan (November 2016) (District Plan) specifically references an intermodal facility at Moorebank. The Moorebank intermodal (ie. the Proposal) supports the vision that by 2056, Western City will be transformed into “a trade, logistics, advanced manufacturing, tourism, health and science hub”. The benefits of integrated planning inclusive of staged infrastructure development and identification of the Moorebank Intermodal within the Liverpool Strategic Centre are present across the productivity, liveability and sustainability priorities within the District Plan aspects of the framework. Key areas where the Proposal is aligned with the District Plan include:</p> <ul style="list-style-type: none"> • Delivering increased accessibility and better transport connections (Section 3.3.1 of the District Plan) • With the development of the Moorebank Intermodal Terminal and freight and logistics movements associated with the Western Sydney Airport, the South West District will become increasingly important in terms of moving people and goods. • Threshold greenfield development being linked to delivery of transport connections (Action P9 of the District Plan) • Growing the diversity, level and depth of jobs and the vibrancy of the Liverpool City Centre expressly references the Moorebank Intermodal (Section 3.5.1 of the District Plan) • Liverpool as a city of business innovation and health and education excellence – targets job generating business investment to Liverpool with a focus on the area’s competitive advantages in health, education and medical research, distribution and logistics, professional services, retail and construction sector (Section 3.6.1 of the District Plan) • Growing tertiary education opportunities: “TAFE NSW is also in discussions with Moorebank Intermodal terminal about the potential to establish a Skills Exchange 	

Aspect	Comment	Response	Reference
		<p>model for the construction of the terminal and the worker engagement, and for training around smart transport and logistics in the longer term.” (Section 3.6.3 of the District Plan)</p> <ul style="list-style-type: none"> • Strengthening the diversity of employment choice: “Freight and logistics activities are an economic facilitator in any city. This statement is true for every class of freight – from air to rail and container freight, to the local delivery of parcels in vans. Our land use planning must therefore recognise, support and mitigate impacts of freight delivery. Maintaining the productivity of the District’s freight network is an important consideration in this draft District Plan.” (Section 3.8 of the District Plan) • Productivity Action items P19 and P20 as indicated above directly relate to the integration of the Moorebank Intermodal Terminal • Allowing activities in the established employment and urban services areas to evolve over time while still retaining urban services and major freight and logistics facilities is essential. (Section 3.8.4 of the District Plan) • Liveability Action L9 - coordinate infrastructure planning and delivery for growing communities – managing background growth and transport infrastructure delivery timing • An approach to coordinated infrastructure planning that “could involve staging development to get the most efficient use of existing infrastructure capacity and staging infrastructure delivery using interim solutions including ... temporary intersection improvements” • Sustainability Actions that include: <ul style="list-style-type: none"> – protection and management of areas of high environmental value (S6) – the development of initiatives for a sustainable low carbon future (S13) – review guidelines for air quality and noise measures for development near rail corridors and busy roads (S16) 	

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> - identify and map potential high impact areas for noise and air pollution (S17) <p>Are all outcomes being pursued within the development of the Proposal</p> <ul style="list-style-type: none"> • Almost half (11) of the 23 listed sustainability priorities are being actively supported and pursued through the development of the Proposal either as direct commitments or linked within Conditions of Approval. <p>In addition, Section 3 of the EIS details that there has been strong and consistent policy support at State and Commonwealth levels for the expansion of the freight rail network across NSW and the development of an IMT facility at Moorebank since 2004. The Commonwealth and State governments have further endorsed the development of an IMT on the MPW site through granting approvals including the MPW EPBC Approval (No. 2011/6086) and the MPW Concept Approval (SSD 5066).</p> <p>Section 3 of the EIS also outlines how the Proposal responds to the aims and objectives of each of the existing and draft State and Commonwealth policies and plans.</p>	
Strategic need and justification	<p>We note that the draft South West District Plan has identified a number of actions relevant to the Moorebank Intermodal:</p> <ul style="list-style-type: none"> • P6: Identify transport improvements which deliver east west and north south connectivity; • P13: Designate Liverpool as a Collaboration Area; • P15: Plan for the Liverpool health and education super precinct as part of the Liverpool Collaboration Area; • P19: Identify and plan for efficient movement of freight to, from and within 	<p>The EIS did not mention the draft South West District Plan (the District Plan) as it was released in November 2016 whereas the EIS went on public exhibition in October 2016. Regardless, consideration of the Proposal in the context of the District Plan is provided above. In addition, the DP&E document <i>A Plan for Growing Sydney</i> (December 2014) identified Principle 2 as stronger economic development in strategic centres and transport gateways and Principle 3 as connecting centres with a networked transport system stating that “Centres rely on efficient transport to serve their customers, supporting their growing business and freight functions, and to connect to the global economy.”</p> <p>The Proposal is aligned to and supports these principles, as detailed in Section 3 of the EIS, which have been affirmed within the District Plan as “remaining current and underpinning many of the priorities” within the District Plan.</p> <p>As noted above, the Proposal, through the development of an IMT facility and associated warehousing in Moorebank, would directly support the productivity priorities detailed in the District Plan, particularly P19 and P20, and is therefore considered to be consistent with</p>	<p>Sections 3, 8, 9, 11 and 20.5 of the EIS.</p> <p>Appendices N, O and Q of the EIS.</p>

Aspect	Comment	Response	Reference
	<p>the District, with least impact on residents' amenity;</p> <ul style="list-style-type: none"> • P20: Provide adequate access to and from the Moorebank Intermodal Terminal; • S2: Review criteria for monitoring water quality and waterway; • S6: Develop a Strategic Conservation Plan for Western Sydney; • S7: Update information on areas of high environmental value; • S8: Use funding priorities to deliver the South West District Green Grid priorities; • S14: Support the development of environmental performance targets and benchmarks; • S16: Review the guidelines for air quality and noise measures for development near rail corridors and busy roads; • S17: Identify and map potential high impact areas for noise and air pollution. <p>We are unclear how these actions in the draft South West District Plan have been addressed in the supporting documents to the application. We could find no mention of the Greater Sydney Commission in the EIS part 1 and 2 documents.</p>	<p>the District Plan. Further, the following actions from the District Plan were also indirectly considered in the EIS at the following locations:</p> <ul style="list-style-type: none"> • P6: <i>Identify transport improvements which deliver east west and north south connectivity, and</i> <p><i>P20: Provide adequate access to and from the Moorebank Intermodal Terminal</i></p> <p>An assessment of construction and operational traffic, including access arrangements, is provided in Section 7 and Appendix M of the EIS. Additionally, a Rail Access Report was prepared for the Proposal, refer Appendix F of the EIS. Although these reports did not specifically refer to these actions, they considered transport improvements, connectivity and access. Of note is that the Proposal would reduce freight traffic volumes and consultation with TfNSW, RMS and LCC would be ongoing to identify opportunities to ease congestion within the local and regional transport network.</p> <ul style="list-style-type: none"> • P13: <i>Designate Liverpool as a Collaboration Area,</i> <p><i>P15: Plan for the Liverpool health and education super precinct as part of the Liverpool Collaboration Area, and</i></p> <p><i>S8: Use funding priorities to deliver the South West District Green Grid priorities</i></p> <p>Section 3 of the EIS outlines how the Proposal responds to the aims and objectives of each of the existing and draft State and Commonwealth policies and plans. These existing plans, and subsequently the EIS, consider the location of health and educational facilities and environmental conservation within the area, and a strategic whole of government approach to planning and infrastructure delivery.</p> <ul style="list-style-type: none"> • P19: <i>Identify and plan for efficient movement of freight to, from and within the District, with least impact on residents' amenity</i> <p>Section 20.5 of the EIS provides an assessment of the socio economic and amenity impacts of the Proposal.</p> <p>Additionally, a Rail Access Report was prepared for the Proposal, refer Appendix F of the EIS, which considered the movement of freight to and from the site.</p>	

Aspect	Comment	Response	Reference
		<ul style="list-style-type: none"> • <i>S2: Review criteria for monitoring water quality and waterway</i> Section 12 and Appendix R of the EIS provide an assessment of the stormwater and flooding impacts of the Proposal. • <i>S6: Develop a Strategic Conservation Plan for Western Sydney,</i> <i>S7: Update information on areas of high environmental value, and</i> <i>S14: Support the development of environmental performance targets and benchmarks</i> Section 11 and Appendix Q of the EIS provide a biodiversity assessment of the Proposal and concluded that biodiversity impacts were manageable through the implementation of offset areas. • <i>S16: Review the guidelines for air quality and noise measures for development near rail corridors and busy roads, and</i> <i>S17: Identify and map potential high impact areas for noise and air pollution</i> Sections 8 and 9 and Appendices N and O of the EIS provide assessments of the Noise and Air Quality impacts of the Proposal respectively. The Noise and Vibration Impact Assessment (refer Appendix N of the EIS) assessed the potential noise and vibration impacts arising from the construction and operation of the Proposal. Potential noise and vibration impacts were assessed in general accordance with the following NSW Government guidelines and policies: <ul style="list-style-type: none"> – INP (EPA, 2000) – Noise Guide for Local Government (NGLG) (EPA, 2013) – RNP (DECCW, 2011) – RING (EPA, 2013) – ICNG (DECC, 2009) – Assessing Vibration: a technical guide (Assessing Vibration) (DEC, 2006). 	

Aspect	Comment	Response	Reference
		<p>The noise assessment also provides contour maps which depict the night time operation noise levels during calm and adverse conditions.</p> <p>The Air Quality Impact Assessment (refer Appendix O of the EIS) assessed potential air quality impacts arising from construction and operation of the Proposal in accordance with the NSW Environment Protection Authority (EPA) Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW EPA, 2005a). Additionally, this assessment provides contour plots for key pollutants.</p>	
Air Quality	<p>We would have particular concerns at the impact on air quality that the Moorebank Intermodal would generate (even though it was difficult to find details on this when it is in operation). Cumulative impacts on air quality compounded by the impacts arising from the increased growth proposed for western Sydney pose a significant equity issue regards access to healthy air, especially for young children.</p>	<p>An assessment of air quality impacts associated with the Proposal is included in Section 9 and Appendix O and cumulative impacts as assessed in Section 19 of the EIS.</p> <p>For the construction phase, the key emissions assessed include fugitive dust or particulate matter (PM), generated during demolition, site clearing and earthworks. During operations, the key emissions assessed were from combustion of diesel fuel.</p> <p>The results for the air quality assessment indicate that the construction phase emissions comply with all relevant impact assessment criteria (NSW EPA <i>Approved Methods for the Modelling and Assessment of Air Pollutant in New South Wales</i>, 2005, and the National Environment Protection (Ambient Air Quality) Measure - AAQ NEPM, 2015). The predicted increase in annual average PM₁₀, PM_{2.5}, TSP and dust deposition are considered minor, when compared against existing background conditions.</p> <p>The cumulative construction scenario for the Proposal included emissions generated from Proposal construction, combined with the adopted ambient air quality concentrations and emissions generated from the adjacent MPE Stage 1 Proposal. The modelling results indicate that dust, TSP, PM₁₀ and PM_{2.5} emissions at sensitive receivers around the Proposal comply with all relevant impact assessment criteria. The annual average concentrations of PM_{2.5} for the Proposal do marginally exceed the NEPM AAQ reporting standard, however this is because the existing background concentrations exceed the NEPM AAQ reporting standard at all receptors. However, the incremental increases in PM_{2.5} emissions created from the Proposal and MPE Stage 1 result in relatively minor increases to the annual average (<0.4 µg/m³ at all sensitive receptors), when compared to background concentration levels.</p>	<p>Sections 9, 19 and Appendix O of the EIS</p> <p>Appendix K of this RtS</p>

Aspect	Comment	Response	Reference
		<p>For the operational phase of the Proposal the maximum increase in PM₁₀ and PM_{2.5} is minor when compared to existing background conditions. When background is added, there are no additional exceedances of the short term impact assessment criteria. The cumulative predictions are above the standard at all receptors, however this is because the annual average background concentrations of PM_{2.5} already exceed the NEPM reporting standard.</p> <p>The cumulative operational scenario included the cumulative operation of the Proposal combined with the MPE Stage 1 Proposal operation, incorporating a total of 750,000 TEU (500,000 TEU for the IMT and 250,000 TEU for the MPE site). Modelling results indicate that the predicted concentrations of PM₁₀ and PM_{2.5} for the operational cumulative scenario would predominantly be compliant with air quality goals, except for the annual average PM_{2.5} concentrations, however this is because these concentrations are already in exceedance of criteria and would not be significantly influenced as a result of incremental cumulative emissions generated by both Proposals.</p> <p>In summary, the cumulative operation of the Proposal would comply with relevant assessment criteria. Modelling predictions indicate that the risk of adverse air quality impacts generated by the Proposal are low.</p>	
Traffic and transport	<p>Significant community concerns were raised regards congestion along Cambridge Ave. Some of these concerns raised by residents apparently living less than a kilometre from the subject site. The draft South West District Plan also identifies problems with Cambridge Ave. However, Cambridge Ave is outside the scope of the proposal. We find it ludicrous that the impact of the project on a boundary commuter street is not addressed with the project's EIS.</p>	<p>MPW Concept Condition of Approval (CoA) E12 states that <i>All future Development Applications shall demonstrate how the main access to the site has been designed to prevent heavy vehicles associated with the facility from using Moorebank Avenue south.</i> Consistent with this CoA, the Proposal has been designed to minimise truck movements from the Proposal site, south onto Moorebank Avenue. All trucks would travel to the site via Moorebank Avenue from the north. There would be minor truck movements (i.e. 16 movements per day (two-way) in the peak) via Cambridge Avenue for the disposal of unsuitable materials from the Proposal site during construction only. There would be no use of Cambridge Avenue for trucks during the operational phase of the Proposal. Notwithstanding this, some cars (employees) for the Proposal would use Cambridge Avenue during operation of the Proposal.</p> <p>The CTIA (refer to Appendix M of the EIS) includes an assessment of traffic movements along Cambridge Avenue during construction. This report concludes that these traffic</p>	<p>Section 7 and Appendix M of the EIS.</p>

Aspect	Comment	Response	Reference
		<p>movements would be minor in nature and would be managed through the implementation of the PCTMP, which would be further progressed prior to the commencement of construction (refer to Appendix M of the EIS).</p> <p>The OTTIA (refer to Appendix M of the EIS) provides an assessment of the traffic impacts of light vehicle movements, from the Proposal, on Cambridge Avenue. Impacts predicted on Cambridge Avenue and the two roundabouts at Cambridge Avenue/Glenfield Road and Cambridge Avenue/Canterbury Road are predicted to be minor, given the traffic (light vehicles only) generated by the Proposal using this road would be minimal and both intersections would be operating with LoS between A and B (respectively) both with and without the Proposal for both scenarios (i.e. 2019 and 2029).</p> <p>Further, the POTMP (refer to Appendix M of the EIS) highlights the parameters for haulage routes and denotes that access will be via the M5 Motorway and Moorebank Avenue in a northward travel direction. This would be further progressed as part of the CEMP for the Proposal prior to construction.</p>	
Socio-economic Strategic need and justification	As the GSC states, Liverpool has the potential to be a centre of knowledge-intensive jobs, housing diversity, with a health and education super precinct and attractive visitor destinations. This will not be achieved if major development such as the Moorebank Intermodal are assessed outside of this broader vision for the Liverpool Strategic Centre.	<p>The Greater Sydney Commission's (GSC) District Plan specifically references the intermodal facility at Moorebank and, as outlined above, the Proposal would directly support the productivity priorities detailed in the District Plan, particularly P19 and P20. Specifically the District Plan identifies:</p> <ul style="list-style-type: none"> • Liverpool as a city of business innovation and health and education excellence – “targets job generating business investment to Liverpool with a focus on the area’s competitive advantages in health, education and medical research, distribution and logistics, professional services, retail and construction sector.” (Section 3.6.1 of the District Plan) • “With the development of the Moorebank Intermodal Terminal and freight and logistics movements associated with the Western Sydney Airport, the South West District will become increasingly important in terms of moving people and goods” (Section 3.3.1 of the District Plan) • Growing tertiary education opportunities – “TAFE NSW is also in discussions with Moorebank Intermodal terminal about the potential to establish a Skills Exchange 	Sections 3 and 20.5 of the EIS.

Aspect	Comment	Response	Reference
		<p>model for the construction of the terminal and the worker engagement, and for training around smart transport and logistics in the longer term” (Section 3.6.3 of the District Plan)</p> <ul style="list-style-type: none"> • Strengthening the diversity of employment choice – “Freight and logistics activities are an economic facilitator in any city. This statement is true for every class of freight – from air to rail and container freight, to the local delivery of parcels in vans. Our land use planning must therefore recognise, support and mitigate impacts of freight delivery. Maintaining the productivity of the District’s freight network is an important consideration in this draft District Plan.” (Section 3.8 of the District Plan). <p>The Proposal is therefore considered to be aligned and consistent with the strategic planning framework and vision outlined in the District Plan.</p>	
Flooding and transport	<p>Flooding is a major constraint to the significant development pressure on industrial riverfront land close to Liverpool and there is urgent need for a comprehensive Masterplan for the Georges River. Further transport planning is also urgently needed to suitably locate the roads and bridges over the river which will be needed in the future and ensure they are outside the flood zone.</p> <p>Flooding impacts and congestion will only be exacerbated by the close to 150,000 truck movements per day that this project will generate during construction and the almost 15,000 truck movements when it is operational.</p> <p>Necessary work and response plans as proposed by the applicant are no substitute</p>	<p>An assessment of the impacts of the Proposal on flooding is included in Section 12.4 of the EIS. This assessment considered the changes to flood behaviour resulting from the Proposal through the flood modelling undertaken, which considered the key flood risks to the Proposal site in terms of the existing environment (i.e. Georges River) and changes to flood risk factors that would be generated through the Proposal.</p> <p>It should be noted that there is no bridge or culvert design on the Georges River in the Proposal, and fill embankments are beyond the 100 year ARI flood extents of these waterways.</p> <p>During construction, the risk of an increase to regional flooding for a storm event up to the 100 year Average Recurrence Interval or Probable Maximum Flood event is considered negligible for all construction works outside of the Georges River riparian corridor.</p> <p>Operation of the Proposal would result in either minor or negligible flood impacts (up to 0.01 metres) along the Georges Rives (refer to Appendix R of the EIS) which is considered acceptable without further flood mitigation. Model results affirm that potential adverse flood impacts along the Georges River have been mitigated by limiting the Proposal site raising to areas above the 1% annual exceedance probability.</p>	Sections 4, 7,12 and Appendix R and M of the EIS.

Aspect	Comment	Response	Reference
	<p>for the proper strategic planning assessment that this proposal requires. There should be recognition that the current environmental planning assessment requirements for State Significant development in NSW are weak and so to take account of potential future risks to life and property.</p>	<p>A Flood Emergency Response Plan (FERP) would be prepared and implemented for the operational phase of the Proposal. The FERP would take into consideration, site flooding and broader flood emergency response plans for the Georges River floodplains and Moorebank area. The FERP would also include the identification of an area of safe refuge within the Proposal site that would allow people to wait until hazardous flows have receded and safe evacuation is possible.</p> <p>Regarding the traffic numbers for the Proposal there would not be 'close to 150,000 truck movements per day during construction or almost 15,000 truck movements during operations. As detailed in Section 4 and 7 of the EIS, the highest construction related traffic movement would occur in works period C (bulk earthworks) when there would be approximately 740 truck movements (round-trip) per day, and during operations there would be approximately 1,458 external truck movements (round-trip) per day.</p>	
Water quality	<p>The protection of Sydney's Green Grid is of direct importance to the liveability and sustainability of Sydney but we would also argue its contribution towards Sydney's productivity. Sediment-loaded and polluted waterways in western Sydney are expensive to manage, reduce property values, restrict opportunities for recreation and tourism and increase flood risks.</p> <p>The protection of all sections of the Georges River, not just its wonderful downstream recreational areas, is crucial for the overall health of the river. It is disturbing that this proposal intends to remove vegetation, change ground levels and modify sub catchments, all of which will be detrimental to the contribution made by the Georges River</p>	<p>Vegetation to be removed from the Georges River riparian zone is currently disturbed, with high abundance and cover of exotic species including invasive weedy species such as <i>Lantana camara</i>, <i>Ligustrum</i> spp., <i>Cardiospermum grandiflorum</i> and <i>Arundo donax</i>. Vegetation to be removed will be limited to that occurring within the footprint of the drainage outlets. The area of native vegetation to be cleared from the basin outlets has been reduced following EIS exhibition (refer to the Updated BAR at Appendix G of this RtS).</p> <p>As described in the EIS, the areas to be disturbed would be recontoured and partially revegetated with native species upon completion of the basin outlets to restore habitat connectivity along the Georges River. Refer to Section 11 of the EIS for further detail. Additionally, Condition E16 of the MPW Conditions of Approval, states that a 40 metres wide riparian corridor would be maintained along the Proposal site.</p> <p>A separate Biodiversity Offset Strategy/Package is to be prepared to offset the loss of Threatened Ecological Communities (TECs), threatened flora and threatened fauna habitat in accordance with the NSW Framework for Biodiversity Assessment and NSW Biodiversity Offsets Policy for Major Projects. This Biodiversity Offset Strategy/Package is to be prepared in accordance with the MPW Concept Approval (SSD 5066). Notwithstanding this, the Biodiversity Offset Strategy/Package considers all the impacts of</p>	<p>Sections 11, 12 and Appendix Q and R of the EIS.</p> <p>Appendix G of this RtS.</p>

Aspect	Comment	Response	Reference
	<p>towards Sydney's vital Green Grid much valued by the residents of Sydney.</p>	<p>the Proposal and would contribute to the conservation of the TECs, threatened flora and threatened fauna habitat. Further, a number of regeneration activities are to be undertaken in this conservation area under a Biodiversity Offset Strategy to further improve the biodiversity value of the eastern bank of the Georges River.</p> <p>The change in ground levels (i.e. the importation of fill) is required for the functionality of the internal site drainage system. As the Proposal site is generally flat, importation and grading of fill is required to ensure that the underground pit and pipe/conduit system can be designed with the appropriate gradients to facilitate east to west drainage across the Proposal site into the onsite detention basins and biofiltration systems/wetlands for water quality treatment prior to discharge. The treatment of stormwater prior to discharge would lead to a reduction in the annual load of total suspended solids, hydrocarbons and total phosphorus discharged from the Proposal site. Refer to Section 12 of the EIS for further detail.</p> <p>As described in the EIS, a Soil and Water Management Plan and Erosion and Sediment Control Plan (or equivalent), would be prepared for the Proposal, in accordance with the principles and requirements of the Blue Book. Erosion and sediment controls, in addition to the onsite detention basins, will minimise adverse impacts on the water quality of Georges River adjacent to and downstream of the Proposal.</p>	
<p>Proposal alternatives</p>	<p>According to the GSC in a recent document Towards our Greater Sydney 2056:</p> <p>"The Australian and NSW governments have agreed to work with local government on the development of a Western City Deal, a generational deal to deliver almost 100,000 jobs, more housing and better transport for outer Western Sydney in what is the nation's largest ever planning and investment partnership.</p>	<p>The MPW Concept Approval (5066) granted by the PAC on 3 June 2016, approved the use of the site for the MPW Project. The location of the MPW Project, and use of the site, are not subject of the development application for MPW Stage 2. However, these matters are addressed in Section 3 of the EIS and further discussion is provided in Section 6.4 of the MPW Concept SRtS and Section 5.4 of the MPW Concept SRtS.</p> <p>Further, there has been strong and consistent support at State and Commonwealth Government levels for the development of an IMT in Moorebank. The Proposal site has been earmarked as a highly suitable location for an IMT in both freight and distribution strategy and there is demonstrable demand for an IMT within the area (refer to Section 3 of the EIS). The MPW site is therefore considered the most suitable location for the Proposal.</p>	<p>Section 3 of the EIS.</p> <p>Section 6.4 of the MPW Concept SRtS</p> <p>Section 5.4 of the MPW Concept SRtS</p>

Aspect	Comment	Response	Reference
	<p>The NSW and Australian Western Sydney City Deal pledges to:</p> <ul style="list-style-type: none"> • target additional infrastructure investment to increase public transport and reduce traffic congestion, so people can spend more time with their families • deliver more jobs closer to homes and services, with a focus on youth and Aboriginal training and skills development • increase housing through better planning and density done well, and streamlining approvals across all three levels of government • Support clean air, green spaces, vibrant arts and cultural initiatives.” <p>A major component of the Deal is the second airport for Sydney but how the Moorebank Intermodal interacts with the proposed freight airport is unclear. We could find no supporting documents regard this.</p> <p>Whilst we have no specialized knowledge in transport planning it would seem odd not to co-locate the two pieces of infrastructure. This would also seem logical in terms of the control of noise and amenity impact on nearby suburbs as well as reducing truck movements between the two transport nodes. It would also shift non-airport freight closer to major arterial roads.</p>	<p>The Commonwealth and State governments have further endorsed the development of an IMT on the MPW site through granting approvals including the MPW EPBC Approval (No. 2011/6086) and the MPW Concept Approval (SSD 5066).</p> <p>Badgerys Creek was considered as an alternative location however, it was determined that the site was too far west of Sydney to be economically feasible as an intermodal facility and did not currently have adequate road or rail supporting infrastructure (refer Section 3 of the EIS and the Concept EIS).</p> <p>The Proposal would enable interstate and intrastate freight distribution and port shuttle (IMEX) movements through the IMT facility predominantly via rail. Therefore, proximity to rail freight corridors, i.e. the South Sydney Freight Line, which links the site to Port Botany and the ARTC interstate rail network to Canberra and Victoria, is of vital importance. The Proposal is co-located adjacent to the MPE Project which proposes an IMT and associated warehousing. The co-location of these uses would improve the transportation of freight logistics from Port Botany and throughout NSW/Australia.</p> <p>The Proposal and the second airport would service different catchments and receive freight via different methods, i.e. one via air and the other via containerised rail freight. Therefore, proximity of the Proposal to rail freight corridors and the adjacent MPE Project are of high priority.</p>	

Aspect	Comment	Response	Reference
EIS – general	<p>We express disappointment that Australian and State government struggle with integrated and strategic planning as they develop necessary infrastructure. In this particular proposal we feel it will have major and unacceptable impacts on western Sydney residents. It undermines the shift towards strategic planning which was promised by the NSW government with the introduction of the Greater Sydney Commission.</p> <p>There is the need for further studies, especially to take account of the second airport decision prior to any approval so as to ensure that it really is in the best location and interests of the future western Sydney as they negotiate the liveability of their parkland city.</p>	<p>The MPW Concept Approval (5066) granted by the PAC on 3 June 2016, approved the use of the site for the MPW Project. The location of the MPW Project, and use of the site, are not subject of the development application for MPW Stage 2. However, these matters are addressed in Section 3 of the EIS and further discussion is provided in Section 6.4 of the MPW Concept SRtS and Section 5.4 of the MPW Concept SRtS.</p> <p>Further, there has been strong and consistent support at State and Commonwealth Government levels for the development of an IMT in Moorebank. The Proposal site has been earmarked as a highly suitable location for an IMT in both freight and distribution strategy and there is demonstrable demand for an IMT within the area (refer to Section 3 of the EIS). The MPW site is therefore considered the most suitable location for the Proposal.</p> <p>Further, the Commonwealth and State governments have further endorsed the development of an IMT on the MPW site through granting approvals including the MPW EPBC Approval (No. 2011/6086) and the MPW Concept Approval (SSD 5066).</p> <p>In addition, the Greater Sydney Commission's (GSC) District Plan specifically references the intermodal facility at Moorebank and, as outlined above, the Proposal would directly support the productivity priorities detailed in the District Plan, particularly P19 and P20. The Proposal is therefore considered to be consistent with the strategic planning framework and vision outlined in the District Plan.</p>	Section 3 of the EIS.

Table 5-9 East Liverpool Progress Association

The East Liverpool Progress Association (ELPA) Moorebank Submission received for the Proposal is expressed to be in relation to the MPW Concept Modification Report, MPE Concept Plan Modification Report and the MPE Stage 2 EIS. A significant proportion of the information provided with the ELPA Moorebank submission was considered to be background and contextual information and has therefore not been reproduced in this RfS. Comments as relevant to the Proposal have been summarised below.

Aspect	Comment	Response	Reference
Approval Process	Comment that the Planning Assessment Commission (PAC) should withhold consent and the decision should be made by the Minister for Planning.	As stated on the DP&E website, if an SSD proposal is not supported by the relevant local council(s), or the Department has received more than 25 public objections, the Department's recommendation is referred to the independent Planning Assessment Commission (PAC) for determination. It is noted that LCC objected to SSD application 16-7709, and more than 25 public objections were received, therefore the PAC is the consent authority for the Proposal.	N/A
Traffic	Roads and Maritime Services (Roads and Maritime) and TfNSW previously agreed to the development of a mesoscopic and microsimulation transport model for the combined MPE and MPW sites. The intended scope of this model should be communicated publicly. It is not clear that the requirements of condition 12 of the MPW Concept Approval have been satisfied. The latest traffic modelling should be publicly exhibited.	Consultation has occurred to ensure the modelling undertaken for the Proposal utilises the appropriate AIMSUN (LMARI) modelling scenario, i.e. Roads and Maritime's model (also referred to as the 'mesoscopic/microsimulation traffic modelling' in Condition 12 of the MPW Concept Approval). In June 2016, SIMTA confirmed that the modelling for the Proposal was to be prepared based on Roads and Maritime's 'Do Nothing Models' (established in March 2016). Consistent with Condition 12 of the MPW Concept Approval (SSD 5066), a joint agency/service provider meeting was undertaken with Roads and Maritime, TfNSW, LCC and CCC in September 2016 to specifically consult on proposed traffic modelling results for the Proposal. A summary of key issues raised at this meeting and responses is provided in Table 6-8 of the EIS and the minutes of the meeting are included in the OTTIA.	Section 6 of the EIS

Aspect	Comment	Response	Reference
	Further review and comment should be made in relation to the dangerous M5 Georges River Bridge merge / weave operation.	AIMSUN modelling conducted for the Proposal considered the potential vehicular conflict and delays associated with weaving and merging of traffic at the M5 interchange. In assessing weaving impacts the AIMSUN model examines driver behaviour, vehicle acceleration and deceleration characteristics and the road geometry. It was noted in the OTTIA prepared for Proposal that this weaving issue is not something that is directly related to the presence of the project and is a broader existing road network issue affected by background traffic growth.	Section 7 and Appendix M (OTTIA) of the EIS
	The Aurecon Moorebank Intermodal Terminal Independent Traffic and Transport review of the MPW Staged SSD (prepared for the NSW Department of Planning and Environment - 8 October 2015) (MPW Concept Approval) should be further considered.	The <i>Independent Traffic and Transport review of the MIC Staged SSD</i> (Aurecon, 2015) was considered by the PAC prior to the decision to grant development consent on 3 June 2016.	N/A
	The largest component of the identified benefit is the removal of traffic congestion from around and beyond Port Botany. The IMT is merely relocating this traffic congestion.	<p>The OTTIA included in Appendix M of the EIS identifies that the Proposal would result in generally a less than 5% increase in traffic at key intersections (except for the M5 Motorway/Moorebank Avenue in AM and PM peak in 2019). The OTTIA also shows that, except for the Moorebank Avenue/Anzac Road intersection, all the key intersections within the study area would require upgrades to manage existing and future background traffic volumes before the addition of the traffic generated by the Proposal. This is attributable to traffic associated with anticipated population growth in the area.</p> <p>It is important to note that the Proposal would not generate any net increase to heavy vehicles during operation that would not otherwise be on the Sydney Metropolitan Road Network. Key benefits of the greater MPW Project include:</p> <ul style="list-style-type: none"> • Transfer of road haulage between Port Botany and Western Sydney to rail freight for redistribution thereby helping to reduce vehicle 	Appendix M (OTTIA) of the EIS

Aspect	Comment	Response	Reference
		<p>kilometres travelled, ease traffic congestion and provide speed benefits for the Sydney road network</p> <ul style="list-style-type: none"> • Easing of the Port Botany bottleneck to enable the Port to cope with future growth and provide large scale freight capacity • Reductions in articulated truck volumes through the Sydney CBD and inner city suburbs, on the M4 Motorway and the M5 Motorway east of the Moorebank Avenue interchange. 	
Site operations	There is a lack of integration across Moorebank Avenue from rail to warehouse. Concern about the costs and amenity impacts associated with the rerouting of Moorebank Avenue to the eastern boundary of the MPE site.	<p>The transfer of operational vehicles between the MPW and MPE sites for the purposes of container handling between the IMT's and warehouses on each site has been included in the MPW Concept Modification Report. A portion of freight would be transferred within the MPW site, from the IMT facility to the warehousing area. Freight transfer would also occur from the MPW warehousing area to the MPE site.</p> <p>The Proposal includes only the upgrades to the intersection of Moorebank Avenue and Anzac Road, and does not include any 'rerouting' of Moorebank Avenue.</p>	MPW Concept Modification Report
Air quality and noise	The IMT is an industrial use involving diesel emissions and noise during operation. The site is located near residential neighbourhoods and is not suitable for this use.	Noise and air quality issues associated with the operation of the Proposal are detailed in Sections 8 and 9 respectively of the EIS. The assessment identified that the impacts to nearby sensitive receivers (including residences) from both construction and operational phases of the Proposal could be managed within acceptable limits with the implementation of the mitigation measures outlined in Sections 8 and 9 and summarised in Section 22 of the EIS.	Sections 8, 9 and 22 of the EIS
Site suitability and alternatives	The IMT site (Moorebank Precinct, which includes the MPW site) is in a geographical corner that is reliant upon bridges and is surrounded by existing traffic congestion. Alternative sites at Badgerys Creek and Eastern Creek	The MPW Concept Approval (5066) granted by the PAC on 3 June 2016, approved the use of the site for the MPW Project. The location of the MPW Project, and use of the site, are not subject of the development application for the Proposal. However, these matters are addressed in	Section 3 of the EIS

Aspect	Comment	Response	Reference
	are expansive green field developments suitable for good planning.	Section 3 of the EIS and further discussion is provided in Section 6.4 of the MPW Concept SRtS and Section 5.4 of the MPW Concept SRtS.	Section 6.4 of the MPW Concept SRtS Section 5.4 of the MPW Concept SRtS
Business case and port freight transport demand	Business case studies used to provide the economic case, and financial support for the development should be made public. Demand for port freight transport is below the lower projections previously provided and the IMT is therefore no longer urgent.	<p>The comments regarding the business case and port freight transport demand are not directly related to the Proposal. It is however noted that business case assessment was approved by the Infrastructure Australia board in February 2015 and is publicly available. The business case assessment identifies that:</p> <ul style="list-style-type: none"> • An intermodal terminal could be economically viable, particularly given the growth potential of Port Botany, the long timeframes for alternative road transport improvements such as WestConnex, and the likely continued congestion in the immediate Port Botany area. • The use of alternative ports to Port Botany is not commercially viable because of the greater distances to the Sydney metropolitan destinations and economies of scale of stevedoring. • An IMT at Moorebank was chosen as there is no other potential terminal site in the Sydney basin that has the same locational advantages, size, short-term availability, existing road and rail connections and ability to meet long-term industry needs at the time of the assessment. <p>With reference to the comments about port freight transport demand it is noted that while compound annual container growth through Port Botany has been over seven per cent for a ten year period to 2012, current forecasts are slightly more conservative with a forecast average annual growth rate of 6.2 % over the period 2014-2019.</p>	

Aspect	Comment	Response	Reference
		<p>At the projected TEU throughput growth of 6.2 % per annum (Port Authority of NSW forecasts) throughput is expected to reach 3.2 million TEU in 2020. Over the longer term, the NSW Freight and Port Strategy predicts that total throughput at Port Botany is forecast to reach seven million TEU by 2030.</p>	

6 AMENDED PROPOSAL

The Proposal has been amended (the Amended Proposal) since the EIS to respond to submissions provided by the government agencies and the community, as part of design progression of the Proposal, and to provide additional clarity where relevant.

Further detail on these amendments has been provided to supplement the description provided for the Proposal within Section 4 of the EIS. These amendments represent an addendum to the Proposal description provided within the EIS. Approval is sought for the Proposal, as amended by this RtS, in accordance with Part 4, Division 4.1 of the EP&A Act.

These amendments result in a minor change from the Proposal as originally proposed within the EIS and remain consistent with the objectives of the Proposal provided within Section 1.3 of the EIS. This section of the RtS provides a description of the amendments to the Proposal and associated changes to the built form, construction and operation of the Proposal. Where no amendment has been made to the Proposal there has been no further discussion within this RtS.

Further assessment of the Amended Proposal and the associated environmental impacts, based on the detail provided below, is included within Section 7 of this RtS.

6.1 Overview

A summary of the amendments to the Proposal is as follows:

- Alignment of the operational hours for warehouses to the IMT facility and Port freight operations to enable freight movements outside of peak traffic times.
- Drainage works:
 - Inclusion of the OSD (Basin 10) and relocation of another OSD (Basin 3) along the eastern boundary of the operational area, adjacent to the western verge of Moorebank Avenue
 - Re-sizing of OSD basins along the western boundary of the operational area
 - Reduction to the widths of selected OSD outlet channels
 - Provision of an additional covered drain within the Endeavour Energy easement
- Identification of container wash-down facilities and de-gassing areas within the IMT facility
- Illuminated backlit signage within the warehousing area
- Inclusion of an upgraded layout for the Moorebank Avenue/Anzac Road intersection
- Adjustments to warehouse layouts.

Additionally, approval for subdivision in the Proposal is no longer sought as subdivision would be undertaken as part of future stages of the MPW Project. Further assessment is provided in Section 7 of the RtS.

6.2 Justification

Section 3 of the EIS presents a proposal justification as required by the SEARs issued on 14 July 2016. This section provides an update to that analysis in the context of the Amended Proposal.

The amendments to the Proposal were made in response to the submissions received and consultation undertaken regarding the Proposal, and/or provide additional clarity, and/or are a result of design progression which recognises opportunities to optimise

the operation of the IMT facility and warehousing area, along with addressing issues associated with traffic, and flooding and drainage. The specific need for each of the amendments is discussed in Table 6-1 below.

Table 6-1: Justification for the amendments to the Proposal

Amendment	Response to a submission	Design development	Additional clarity	Further justification
Hours of warehousing operations	✓	x	x	<p>The EIS stated that the warehousing area would be operational 18 hours per day, however the amendment to the Proposal seeks to extend these hours to 24 hours per day to enable operational efficiencies within the Proposal site and to minimise potential impacts on the surrounding area by spreading operations over a longer time period.</p> <p>This extension to the operational hours of the warehousing would be consistent with the IMT operations. Further, it has also has been undertaken based on consultation with NSW Ports whom expressed the importance for the whole logistics chain to operate 24/7 to improve sequencing and movement of freight throughout Sydney and NSW (refer to Section 6.1 of the EIS).</p> <p>The Operational Traffic and Transport Impact Assessment (OTTIA) prepared for the EIS included an assessment of 24 hour warehousing operations, therefore this amendment would align the remaining technical assessments with the OTTIA.</p>
Drainage works (inclusion of the OSD along the eastern boundary)	x	✓	x	<p>This “western OSD”, as it is identified and included within the MPE Stage 2 Proposal (SSD 7628) has also been included within this Proposal to highlight the need for this OSD for both approvals and to ensure alignment between the two operations and their respective approvals.</p> <p>Further, design progression has identified the need for an OSD along the eastern boundary of the MPW site, between the IMT facility and Moorebank Avenue to improve the drainage of the Proposal site and the surrounding land uses. This OSD would also be, in part, used for drainage from the MPE Project and Moorebank Avenue to the east of the Proposal site.</p>
Drainage works (relocation of basin)	x	✓	x	Design progression has identified the need for the relocation of basin 3A in the

Amendment	Response to a submission	Design development	Additional clarity	Further justification
3A, re-sizing of OSD basins, additional covered drain, and changes to OSD outlet channel widths)				south-eastern portion of the Proposal site, re-sizing of OSD basins, an additional covered drain, and changes to the widths of the OSD outlet channels. These design amendments enable improved drainage and function of the Proposal site and the surrounding land uses.
Container wash-down and de-gassing areas	✓	✓	✓	<p>Consultation with NSW Ports has identified the need for wash down container facilities and de-gassing areas within the IMT facility for quarantine purposes to prevent the uncontrolled release of pathogenic materials (refer Section 2 of this RtS). Additionally, further discussions regarding design development with the IMT facility operator has identified the need for these facilities.</p> <p>Inclusion of these facilities are part of the ancillary support facilities for the IMT and would be located within a minor sheltered area within the proposed IMT facility.</p>
Illuminated backlit signage	x	✓	✓	Illuminated backlit signage was identified as part of the Proposal, particularly relating to way finding and access to and from the IMT facility, warehousing area and freight village (refer to Section 4.2.8 and Appendix D of the EIS). Although shown on the Architectural Plans (Appendix D of the EIS), the EIS did not specifically discuss the backlit illumination of corporate signage (Type 5), which discussions with potential tenants has identified as a requirement. For clarity, approval is sought for the backlit illumination of corporate signage to be located on the warehousing as part of this amendment.
Upgraded layout to Moorebank Avenue/Anzac Road intersection	✓	✓	x	Design progression and a further assessment of construction staging has identified the need for an upgrade of the Anzac Road leg of the Moorebank Avenue/Anzac Road intersection upgrades included within the EIS. This amended upgrade has been designed to provide capacity for the traffic associated with future anticipated background traffic growth, the Proposal and the greater Moorebank Precinct operations at a total throughput of 1.55m TEU. The amended

Amendment	Response to a submission	Design development	Additional clarity	Further justification
				<p>upgrade would be built to accommodate traffic in an operational full build (entire precinct) scenario of 2026. The upgrade is to be built as part of the Amended Proposal to facilitate access for the Amended Proposal and as part of an early establishment of the upgrades for Moorebank Avenue to minimise future disruptions to traffic movement (i.e. build the full intersection at one time rather than interrupt traffic multiple times at a later stage).</p> <p>This design amendment has been undertaken to resolve concerns raised in government agencies (TfNSW and LCC) and community submissions (refer to Sections 4 and 5 of this RtS).</p>
Adjustments to warehouse layouts	x	✓	x	<p>SIMTA has recently undertaken discussions with potential tenants for the warehousing on the Proposal site. These discussions have identified the need to amend the arrangement of warehousing and some internal roads to accommodate potential tenant's requirements. This minor amendment has considered and implemented all of the design principles identified in the previous warehousing layout to minimise other alterations to the Proposal site layout and impacts on the surrounding area.</p>

6.3 Amendments to the Proposal

The amendments to the Proposal are detailed in the below sections and are shown in Figure 6-1.

Moorebank Precinct West

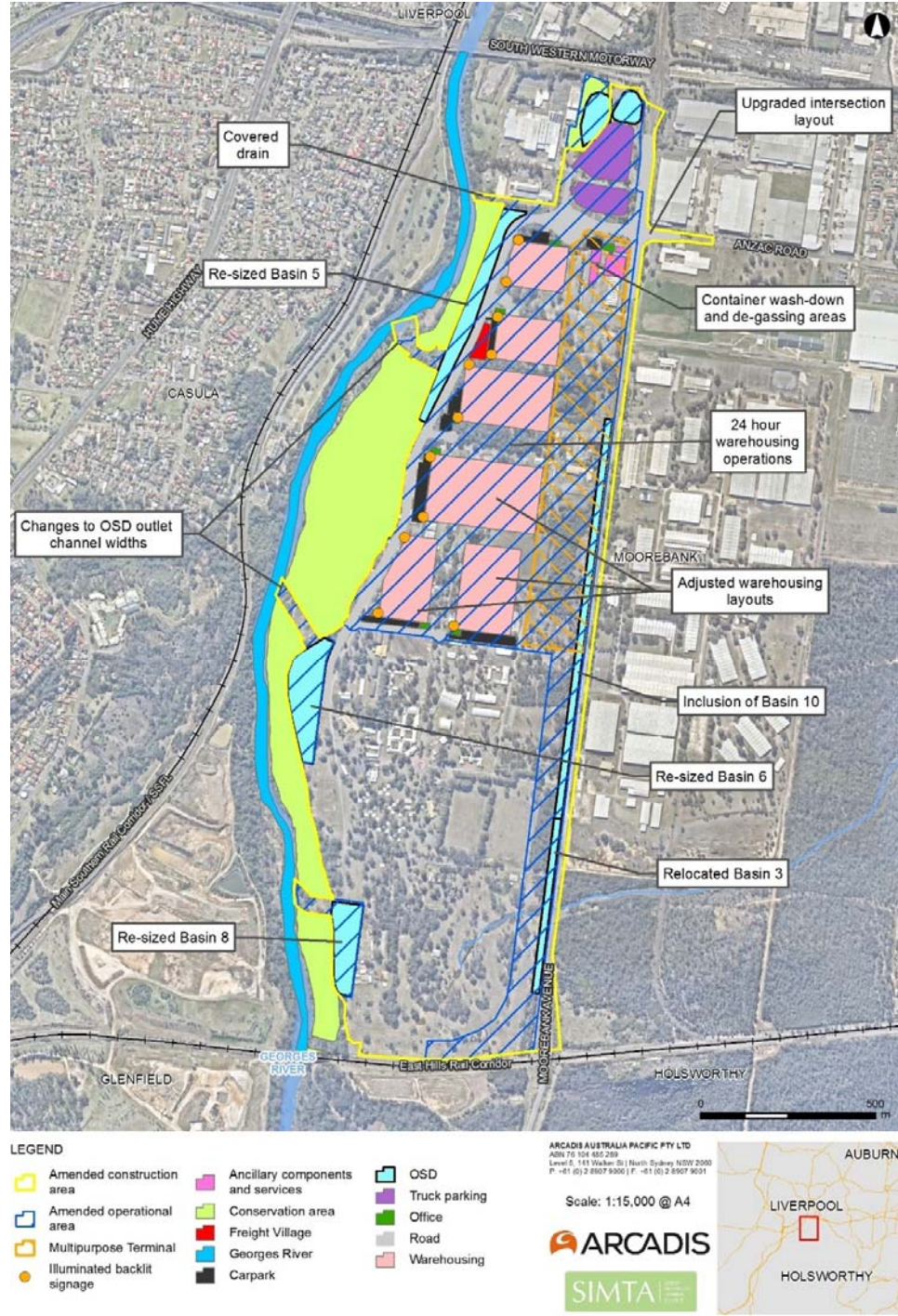


Figure 6-1: Amendments to the Proposal

6.3.1 Hours of warehousing operations

The EIS noted that *'The warehouses would generally be operational for 18 hours a day, and five to seven days a week and the operational hours of the freight village would be 7am to 6pm, five to seven days per week'* (Section 4.1 of the EIS). The amendment to the Proposal intends to increase the hours of operation of the warehouses to 24 hours per day, seven days a week, which would align the operational hours for warehouses to the IMT facility and Port freight operations to enable freight movements outside of peak traffic times.

The OTTIA prepared for the EIS included an assessment of 24 hour warehousing operations, therefore this amendment would align the remaining technical assessments with the OTTIA. This increase to the operational hours would improve the sequencing of the logistics chain between the Proposal site, Port Botany and regional freight movements.

6.3.2 Drainage works

Inclusion of the OSD along the eastern boundary

The EIS included a setback between the IMT facility and Moorebank Avenue and noted that *'An 18 m building setback would apply along the Moorebank Avenue (eastern) boundary and a 7 m building setback along the other site boundaries'* (Section 4.2.7 of the EIS). The Proposal included landscaping within this setback area, whereas the Amended Proposal would include an OSD (Basin 10) along the eastern boundary of the Proposal site, between the IMT facility and Moorebank Avenue within this setback area. This OSD is required to enable effective drainage within the site, refer to Figure 6-1 and Appendix H of this RtS. This OSD would also be used, in part, by the MPE Project and Moorebank Avenue. The inclusion of an OSD here as part of the setback does not reduce the setback to built forms and would maintain the previously identified setback of 18 m with opportunities to integrate the OSD landscaping within the broader landscape plan.

Stormwater runoff from within the Proposal site and along Moorebank Avenue would be conveyed through a pit and pipe system to the OSD, located to the west of Moorebank Avenue. Water from the OSD would then discharge to the open channel that flows westwards through the MPW site and discharges to the Georges River.

Relocation of temporary basin 3A

The temporary basin 3A identified in the EIS would be relocated to the Moorebank Avenue frontage and renamed as Basin 3, refer to Figure 6-1 and Appendix H of this RtS. Basin 3 would be established during the construction of the Amended Proposal (as a sediment basin), however would be utilised as a permanent OSD during operations of the Amended Proposal. Basin 3 would discharge via an existing culvert under Moorebank Avenue in an easterly direction into Anzac Creek.

Re-sizing of OSD Basins 8, 6 and 5

As the Proposal design has progressed, Basins 8, 6 and 5 and their associated upstream catchments, have been refined and re-configured to provide more efficient and effective flood mitigation performance. In particular:

- The Basin 8 catchment has been increased resulting in the Basin 8 footprint and volume being increased

- The Basin 6 catchment has been decreased, while retaining a similar footprint and volume
- The Basin 5 footprint configuration and volume has been refined.

Table 6-2 outlines the performance of the re-sized OSD storages individually and cumulatively across the Proposal site given the changes to local surface water conditions created by the Amended Proposal.

Table 6-2: Detention storage performance summary

Storage [water quality extended detention level mAHD]	Catchment Area (ha)	Event	Peak Inflow (m ³ /s)	Peak Outflow (m ³ /s)	Water Level (mAHD)	Volume * (m ³)
8 Georges River MPW Site South [11.8]	26.13	100 year	12.6	0.8	13.62	33100
6 Georges River MPW Site [11.6]	49.46	100 year	23.7	2.3	13.41	54100
5 Georges River MPW Site [11.3]	49.87	100 year	24.2	3.8	13.39	42240

* Approximate active storage above water quality extended detention water level

The OSD storages for the Proposal site have been sized to control 100 year ARI flows for conditions entering basins with extended detention (~3 month) water levels and low flow outlets fully blocked at the onset of the storm event.

Refer to Figure 6-1 and Appendix H of this RtS for additional details.

Reduction to the widths of selected OSD outlet channels

Design progression has identified the opportunity to refine the construction boundaries and areas necessary for Basin 5 and Basin 6 outlet channels, which are located along the western boundary of the Proposal site and discharge directly to the Georges River.

Refer to Figure 6-1 and Appendix H of this RtS for additional details.

Additional covered drain within the Endeavour Energy easement

Additional site survey undertaken in the northern area of the Proposal site (to the north and south of Bapaume Road) has provided further insight on existing drainage systems and flow regimes in these areas and has highlighted the need for additional drainage in this area. As a result, a drainage system that will convey flows from the northern portion of the site to Basin 5 and the proposed outlet to the Georges River is proposed partly within the existing Endeavour Energy easement.

6.3.3 Container wash-down facilities and de-gassing areas

The EIS did not specify the inclusion of container wash-down or de-gassing facilities as part of the ancillary facilities located within the IMT facility. As these items are required to meet quarantine standards and improve the operation of the IMT facility, from a safety and environmental perspective, they are specifically included in the description of the Amended Proposal and their potential environmental impacts have been considered in this RtS.

The container wash-down facilities would comprise of a sheltered wash-down bay located in the northern portion of the IMT facility. This would comprise of a sheltered structure with three walls (made up of three metres of solid structure at the base with an elevated open-air structure above), and a roof to provide weather protection. Container handling equipment, such as reach stackers, would transport a container into the wash-down bay where external washing of the container would be undertaken. The wash-down bay would be located on less porous pavement and would be surrounded by drains that convey water into a water holding tank for treatment and future discharge.

Containers with goods including food and wood are gassed with methyl bromide prior to departure in order to destroy vermin and pests, and these containers need to be de-gassed before the goods can be used. A designated area for de-gassing would be provided within the northern portion of the IMT facility, however this area can also be used for other operational activities. Upon receipt, a container requiring de-gassing would be stored in this designated area and an external degassing operator would attend the Proposal site. All gas captured during this process would be captured by the specialist operator and transferred off site in a contained and safe manner. Some equipment for the purposes of degassing may be stored on-site however generally the specialist operator would bring all necessary equipment to site as the need for degassing arises.

The proposed de-gassing system would include fan forced ventilation for container residual gas extraction and collection. Where fumigation is required, a recapture system will be used to collect and treat residual gas emissions. The proposed de-gassing and recapture system for fumigation will use carbon filtration to control emissions of methyl bromide (refer to Section 7, Appendix E and Appendix F of this RtS). In summary, fugitive emissions from de-gassing and fumigation can be managed to ensure that there is no risk to surrounding land uses.

An example of a container washdown and de-gassing area is provided in Figure 6-2. The location of the wash-down bay and de-gassing area is shown in Figure 6-1 and details are provided in the Architectural Supplementary Response Material (Appendix B of this RtS).



Figure 6-2: Example of a container wash-down facility and de-gassing area

6.3.4 Illuminated backlit signage

The project description in the EIS states that illuminated backlit signage would be included within the Proposal site: *A number of illuminated signs would be located at relevant access locations and within the Proposal site. These signs would be for the purposes of wayfinding and access to/from the IMT facility, warehousing area and freight village* (Section 4.2.8 of the EIS). The EIS did not specifically discuss the backlit illumination of corporate signage (Type 5). For clarity, approval is sought for the backlit illumination of corporate signage to be located on each warehouse as part of this amendment. Refer to the updated signage strategy included in Appendix B of this RtS for the location of the backlit illuminated signage.

6.3.5 Upgraded layout for Moorebank Avenue/Anzac Road

The EIS included interim intersection upgrades required for the Proposal operation, but not for the proposed background traffic and the total approved container throughput of the Moorebank Precinct. The Amended Proposal would include a layout for the Moorebank Avenue/Anzac Road intersection, which would allow capacity for the operation of the Moorebank Precinct (MPW and MPE Projects and associated development).

The final configuration of the Moorebank Avenue/Anzac Road signalised intersection, which would include the construction of a fourth leg to the intersection providing an access road into the Proposal site, would be as follows:

- Fourth leg access road:
 - One left turning slip lane onto Moorebank Avenue (northbound)
 - One through lane onto Anzac Road (eastbound)
 - One right turning lane onto or Moorebank Avenue (southbound)
- Moorebank Avenue (southbound):
 - One left turning slip lane onto Anzac Road (eastbound)
 - Two through lanes continuing on Moorebank Avenue (southbound)
 - Two right turning lanes onto the new access road (westbound)
- Anzac Road:
 - Two right turning lanes onto Moorebank Avenue (northbound)
 - One through lane onto the new access road (westbound)
 - One left turning slip lane onto Moorebank Avenue (southbound)
- Moorebank Avenue (northbound):
 - Two right turning lanes onto Anzac Road (eastbound)
 - Two through lanes continuing on Moorebank Avenue (northbound)
 - One left turning slip lane onto the new access road (westbound).

Refer to Figure 6-3 for intersection layout details.

This intersection would have the capacity to accommodate A-Double vehicles, i.e. vehicles capable of moving two 40 foot containers.

Consultation regarding these proposed intersection works has been, and continues to be, undertaken with Defence.

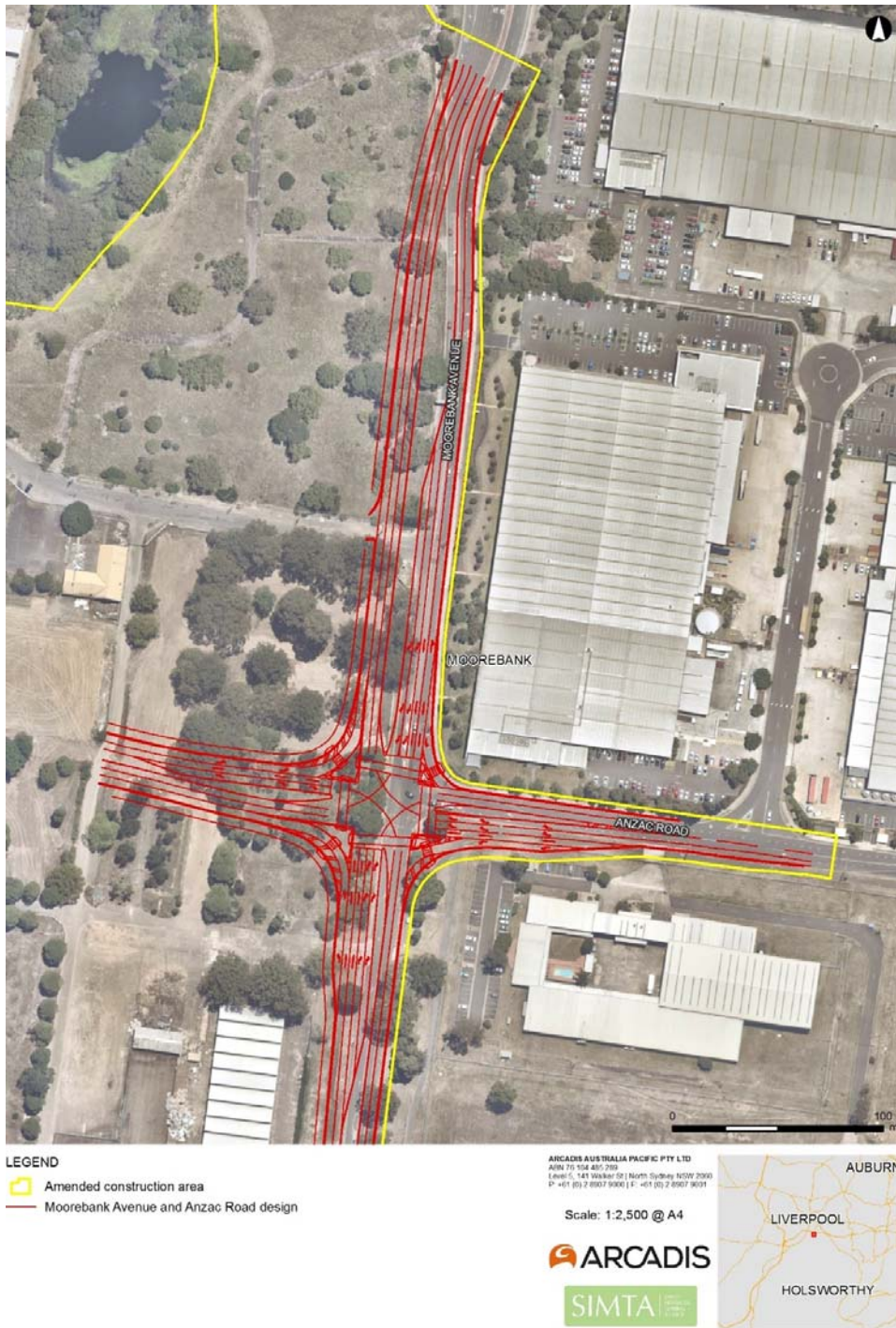


Figure 6-3: Moorebank Avenue/Anzac Road upgraded intersection layout

6.3.6 Adjustments to warehouse layouts

The EIS included a layout of warehouses within the Proposal footprint and their configuration on the Proposal site. The Amended Proposal includes a slightly altered layout of the warehouses on the MPW site within the existing warehousing area, refer to Figure 6-1 and Table 6-3. The GFA, parking number and allocations, and stormwater management measures for the warehouses would remain unchanged. Additionally, the warehousing design, orientation and heights would remain the same.

Table 6-3: Adjusted warehousing layouts

Warehouse no.	General location	Size (m ²)	Office (m ²)	Car parking spaces
1	Northern-most warehouse, located directly south of the proposed main site entry roundabout	21,000	1,000	95
2	Directly south of Warehouse 1 and adjacent to the IMT facility	23,000	1,000	96
3	Directly south of Warehouse 2, and adjacent to the IMT facility	40,000	1,000	160
4	Directly south of Warehouse 3 and adjacent to the IMT facility	61,000	1,000	229
5	Directly south of Warehouse 4 and adjacent to the IMT facility	40,000	1,000	194
6	In the south western corner of the operational area, directly west of Warehouse 5.	30,000	1,000	126

6.4 Construction

A summary of the potential changes to construction of the Proposal resulting from the amendments are included in Table 6-4. The construction aspects considered below are consistent with those included in the Project Description (Section 4) of the EIS. Where impacts are anticipated, further assessments have been undertaken, refer to Section 7 of this RfS.

Table 6-4: Amendments to the Proposal – Construction changes

Amendment	Construction Aspect							
	Construction footprint	Construction methodology and program	Earthworks	Soil and Water Management	Workforce and Hours	Plant and Equipment	Traffic Movement and Access	Ancillary facilities
Hours of warehousing operations	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Drainage works	The re-sizing of OSD basins and the additional covered drain would result in a minor increase to the construction footprint (refer Figure 6-4). The reduction in OSD outlet channel widths would result in a minor decrease to the construction footprint (refer	No changes to the construction works methods or program as the amendments would be integrated into the existing construction program (refer to program below - Table 6-5), therefore no further assessment is provided.	Construction of this amendment would require construction of the two OSDs and the additional covered drain, which would result in minor changes to the earthworks required as additional excavations would be required. There would be no alteration to fill	Construction of the Amended Proposal would result in changes to the stormwater and drainage design on the site, therefore further assessment is included in Section 7.	No change to the maximum construction personnel working on or entering the site. Working hours identified for the Proposal would not change, therefore no further	The number and types of plant and equipment would remain the same, therefore no further assessment is provided.	Access to the Proposal site during construction would remain the same. No changes to the construction traffic numbers, therefore no further assessment is provided.	No change to the number, location or use of construction ancillary facilities under the Proposal, therefore no further assessment is provided.

Moorebank Precinct West

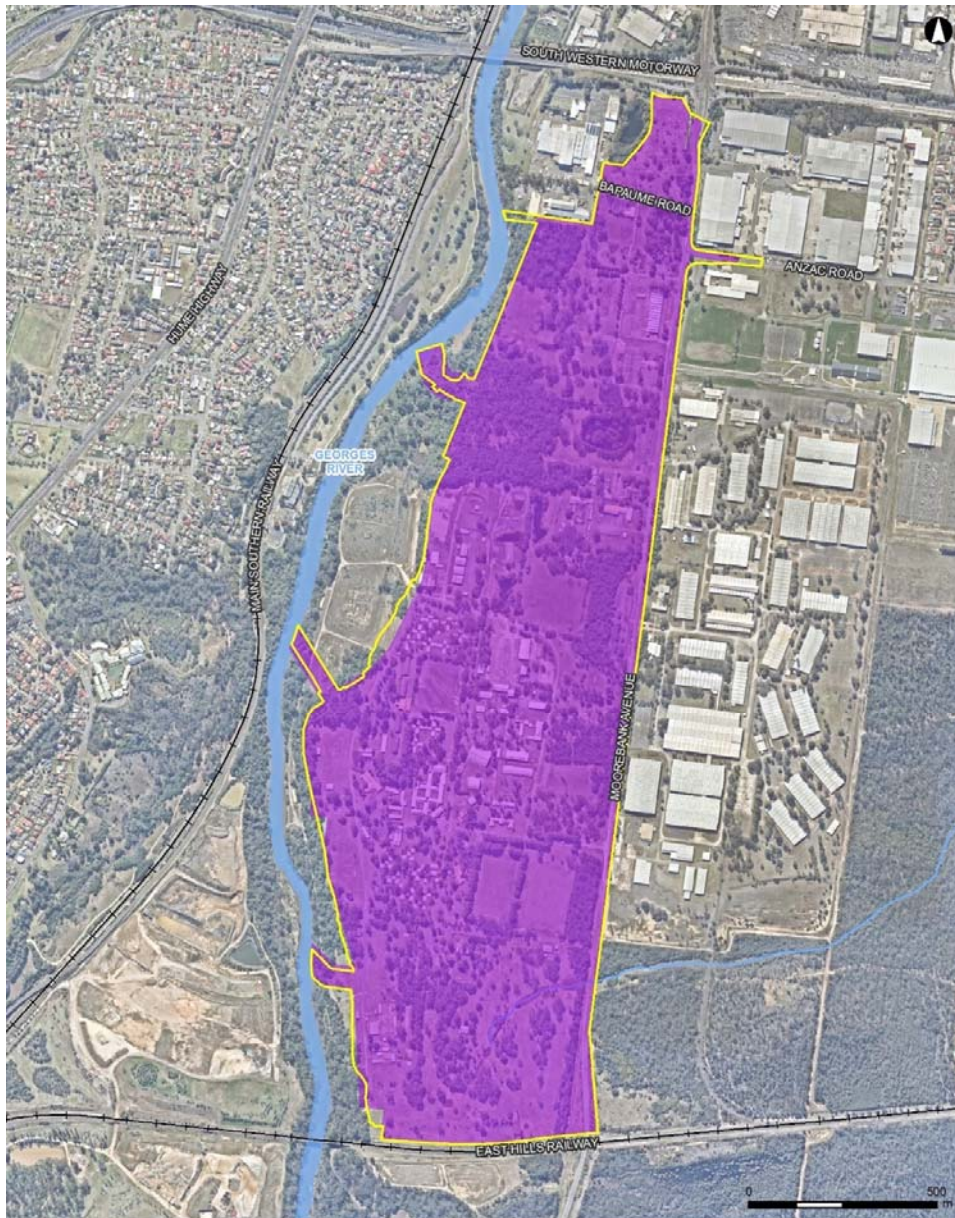
Amendment	Construction Aspect							
	Construction footprint	Construction methodology and program	Earthworks	Soil and Water Management	Workforce and Hours	Plant and Equipment	Traffic Movement and Access	Ancillary facilities
	Figure 6-4). Further assessment is included in Section 7.		required for the Proposal. Further assessment is included in Section 7.		assessment is provided.			
Container wash-down facilities and de-gassing areas	No changes to the construction footprint included in the EIS, therefore no further assessment is provided.	As above	No changes to the earthworks required for the Proposal, therefore no further assessment is provided.	No change to the soil and water management measures and principles associated with the Proposal, therefore no further assessment is provided.	As above	As above	As above	As above
Illuminated backlit signage	As above	As above	As above	As above	As above	As above	As above	As above
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Minor increase to the construction footprint (refer Figure 6-4). Further assessment is included in Section 7.	The construction program for works period D would be extended by two quarters (refer to Table 6-5) for this amendment and as a result of further	Minor changes to the earthworks required for the Proposal as the footprint for construction works would be slightly increased.	As above	As above	As above	Construction of this amendment would result in changes to the proposed site access and movements,	As above

Amendment	Construction Aspect							
	Construction footprint	Construction methodology and program	Earthworks	Soil and Water Management	Workforce and Hours	Plant and Equipment	Traffic Movement and Access	Ancillary facilities
		construction staging investigations. Notwithstanding this, there would be no overall change to the construction program, therefore no further assessment is provided.	Further assessment is included in Section 7.				therefore further assessment is included in Section 7.	
Adjustments to warehouse layouts	As above	No changes to the construction works methods or program, therefore no further assessment is provided.	No changes to the earthworks required for the Proposal, therefore no further assessment is provided.	As above	As above	As above	Access to the Proposal site during construction and the proposed traffic movements would remain the same, therefore no further assessment is provided.	As above





Moorebank Precinct West

Table 6-5: Indicative construction program for MPW Stage 2, showing proposed program changes resulting from the Amended Proposal

Construction Phase	2018				2019				2020				2021		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Works period A – Pre-construction stockpiling	■														
Works period B - Site Preparation Activities	■														
Works period C – Bulk earthworks, drainage and utilities		■	■	■	■	■	■	■	■	■	■	■	■		
Works period D - Moorebank Avenue intersection works and internal road network	■	■	■	■	■										
Works period E – IMT facility and Rail link connection construction		■	■	■	■	■									
Works period F –Construction and fit-out of warehousing and freight village		■	■	■	■	■	■	■	■	■	■	■	■		
Works period G – Miscellaneous structural construction and finishing works													■		



LEGEND

-  Amended construction area
-  Previous construction area
-  Watercourse
-  Existing railway

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Figure 6-4: Comparison of the originally proposed construction area and the amended construction area

6.5 Operations

A summary of the potential changes to operations resulting from the amendments to the Proposal are included in Table 6-6. The operational aspects considered below are consistent with those included in the Project Description (Section 4) of the EIS. Where impacts are anticipated, further assessments have been undertaken, refer to Section 7 of this RfS.

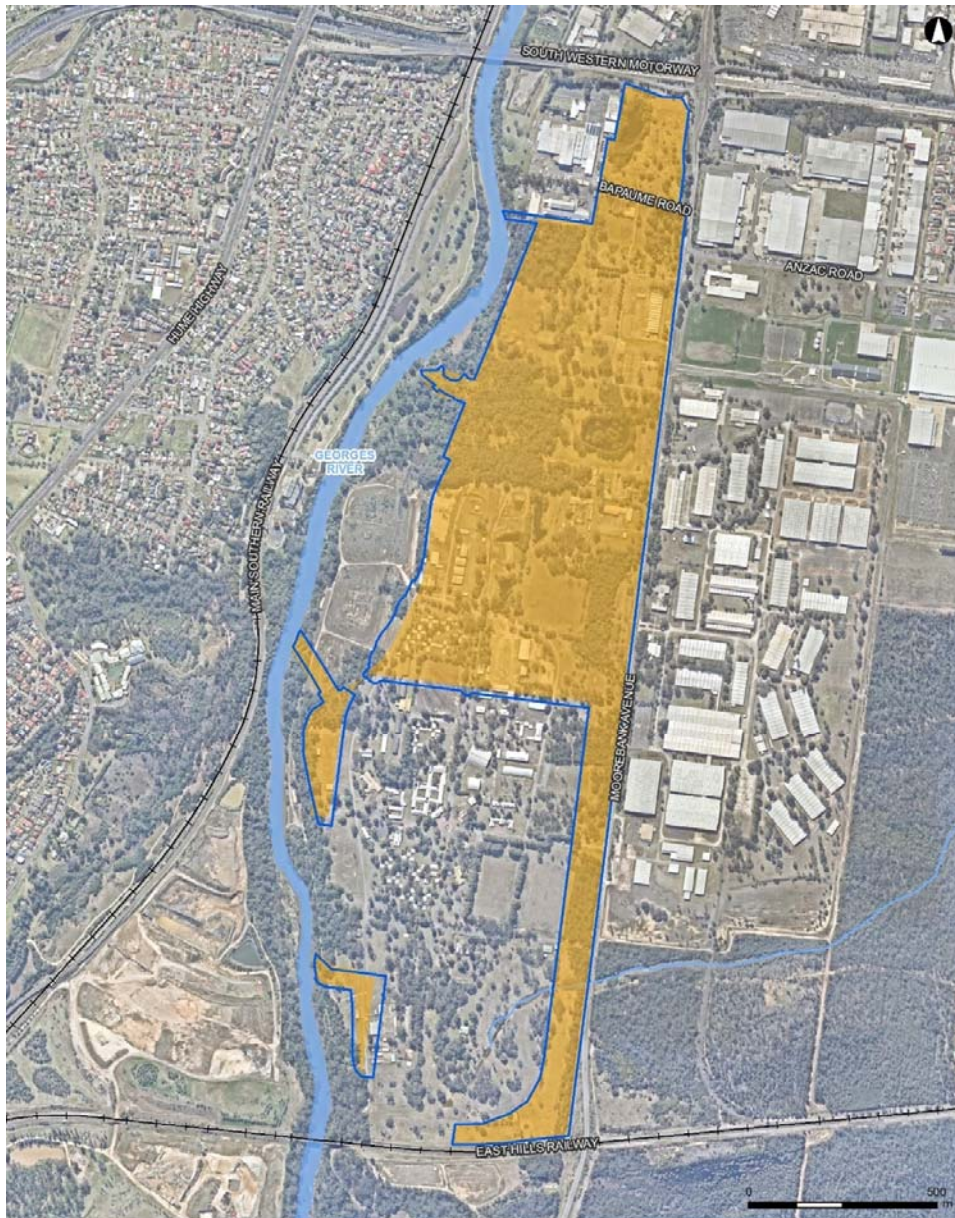
Table 6-6: Amendments to the Proposal – Operational changes

Amendment	Operational Aspect			
	Operational footprint	Workforce and Hours	Traffic Movement and Access	Built form
Hours of warehousing operations	N/A	Warehousing hours of operation would increase from 18 to 24 hours, 7 days a week. Further assessment is included in Section 7.	The traffic assessment already considered 24 hour warehousing operations, therefore further assessment is not considered necessary.	This amendment would not result in any changes to the built form of the Proposal, therefore no further assessment is provided.
Drainage works	The OSD re-sizing, reduction in OSD drainage channel widths and provision of an additional covered drain would result in minor changes to the operational footprint included in the EIS. Further assessment is provided in Section 7 of this RfS.	No changes to the operational workforce, hours, traffic movements or access arrangements during operation of the Proposal, therefore no further assessment is provided.		The stormwater and drainage design and assessment included in the EIS would result in minor changes based on these amendments. The inclusion of the OSDs and the additional covered drain would result in a change to the built form of the MPW site. Further assessment is included in Section 7.

Amendment	Operational Aspect			
	Operational footprint	Workforce and Hours	Traffic Movement and Access	Built form
Container wash-down facilities and de-gassing areas	As above	As above		Sheltered wash-down and de-gassing facilities would be located within the IMT facility as intended for ancillary facilities. Further assessment is included in Section 7.
Illuminated backlit signage	As above	As above		The proposed illuminated signage within the warehousing area would change as a result of this amendment. Further assessment is included in Section 7.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Operation of this amendment would result in a minor increase to the operational footprint (refer Figure 6-5). Further assessment is included in Section 7.	No changes to the operational workforce or hours, during operation of the Proposal, therefore no further assessment is provided.	This amendment would result in minor changes to the operational traffic movements and access arrangements during operation of the Amended Proposal. Further assessment is included in Section 7.	The design of the intersection, and Proposal footprint, included in the EIS would be altered as a result of this amendment. Services relocation would be required for the proposed works. These relocations would be developed and approved via consultation with the relevant agencies. Further assessment is included in Section 7.
Adjustments to warehouse layouts	As above	As above	Access arrangements to the Proposal site would remain unchanged, however internal vehicle movements (localised) within the warehousing area would be re-configured slightly as a result of this amendment. There would be no change to the operational traffic	Changes to the general arrangement/configuration of warehousing and some internal roads would occur as a result of this amendment.

Moorebank Precinct West

Amendment	Operational Aspect			
	Operational footprint	Workforce and Hours	Traffic Movement and Access	Built form
			movements for the Proposal, therefore no further assessment is provided.	<p>Carparking numbers and allocation would remain consistent with those included in the EIS.</p> <p>Further assessment is included in Section 7.</p>



LEGEND

- Amended operational area
- Previous operational area
- ~ Watercourses
- +— Existing railway

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Figure 6-5: Comparison of the originally proposed operational area and the amended operational area

7 FURTHER ASSESSMENT

This section of the report assesses the potential environmental impacts associated with the amendments to the Proposal. This section is based on the description of amendments provided in Section 6 of this RtS. With the exception of the biodiversity assessment where a full reassessment was undertaken, the further assessments prepared and summarised in this section are to be read as supplementary to the technical specialist reporting provided within the EIS.

This assessment is based on the key issues and other issues identified within the SEARs (SSD 5066) for the Proposal (dated July 2016).

For each environmental aspect, outcomes arising from the environmental assessment undertaken to support the EIS have been described to identify a baseline against which modifications sought in the Amended Proposal can be compared.

Overall, it is considered that the Amended Proposal would, subject to the implementation of updated mitigation measures/REMMs (refer to Section 8 of this RtS), result in environmental impacts that are generally consistent with those identified for the Proposal within the EIS.

7.1 Environmental Assessment

7.1.1 Traffic and Transport

MPW Stage 2 Proposal

An assessment of potential construction and operational traffic impacts generated by the Proposal was undertaken by Arcadis for the EIS.

For the construction assessment, it was determined the number of truck movements would vary between 6 and 740 truck movements a day, depending on the construction works period. Works Period A (associated with pre-construction works) and the peak construction period (overlap in works periods C, D, E and F) were used for modelling scenarios to represent the worst-case construction traffic impact scenario. SIDRA modelling was used to assess changes to the traffic network performance as a result of the construction of the Proposal.

The analysis of the scenarios found that a Level of Service (LoS) of B or C, representing good to satisfactory operating conditions, would be maintained at the key intersections of the M5 Motorway / Moorebank Avenue and Moorebank Avenue/Anzac Road during the AM and PM peak hours. A Preliminary Construction Traffic Management Plan (PCTMP) has been prepared to outline traffic management measures that would be adopted, and further considered as part of the preparation and implementation of the CEMP and CTMP for the construction of the Proposal.

The operational traffic impact analysis determined that the Proposal would generate 1,458 truck movements (2-way) per day, of which approximately 95 percent are expected to arrive or leave between 6 AM and 10 PM. Operational traffic controls have been prescribed to prevent heavy vehicles travelling along Anzac Road, Moorebank Avenue (south of the Proposal site entrance) or through the suburb of Wattle Grove to access the Proposal site. Operation of the Proposal would also generate approximately 2,670 car movements (2-way) to and from the Proposal each week day, with approximately 40 percent of trips made during the peak AM and PM periods. Approximately 18 percent of employee car traffic generated by the Proposal would travel to the Proposal site via Moorebank Avenue from the north, while approximately 22 percent and 31 percent would travel to the Proposal site via the M5 Motorway from the east and west, respectively. A further 18 percent would access the

site via the Hume highway before linking with the M5 Motorway. 8 percent and 3 percent of employee car trips would reach the Proposal site via Anzac Road to the east and Moorebank Avenue from the south, respectively. Outbound traffic movements would typically reflect the reverse of inbound movements.

The analysis found that during the opening year of operations (2019) at key road sections, the highest traffic increase attributable to the Proposal is forecast on Moorebank Avenue (north of Anzac Road) with an increase of 17 percent. The analysis also indicates a minor increase to traffic on Anzac Road (east of Moorebank Avenue) (approximately 1.9 percent), along Moorebank Avenue (south of Anzac Road) and Cambridge Avenue (less than 0.5 percent) attributable to the Proposal. Intersection modelling for the opening year of operations identified the highest traffic increase attributable to the Proposal is predicted at the Moorebank Avenue/Anzac Road intersection, which provides vehicular access to the Proposal site (20 percent to 26 percent increase during peak hour). The operation of the Proposal is also predicted to increase traffic at the M5 Motorway/Moorebank Avenue intersection by 11 percent to 14 percent in 2019.

In the 10-year design horizon (2029), the traffic increases to both road sections and intersections is expected to reduce proportional to background traffic levels. For this period, the traffic increase attributable to the Proposal is expected to be 14 percent on Moorebank Avenue (north of Anzac Road) and 1.6 percent on Anzac Road (east of Moorebank Avenue). The increase to traffic at key intersections is also predicted to reduce based on rising background levels, with an increase to traffic at the Moorebank Avenue/Anzac Road intersection by 6 percent to 7 percent, and the M5 Motorway/Moorebank Avenue by 3.5 percent to 4 percent by 2029.

Overall, it is concluded that the Proposal (and cumulative scenario including the Proposal) would result in only marginal traffic impacts to the surrounding road network in the presence of mitigation and management measures. The analysis shows that with the exception of the Moorebank Avenue/Anzac Road intersection, all of the key intersections within the study area would require upgrades to manage existing and projected background traffic volumes before the addition of the traffic generated by the Proposal. An upgrade (in part or in full) of the Moorebank Avenue/Anzac Road intersection was recommended as part of the Proposal, subject to negotiations with Roads and Maritime.

A Preliminary Operational Traffic Management Plan (POTMP) has been prepared to identify the management strategies to minimise traffic impacts associated with operation of the facility and would be finalised prior to operation of the Proposal.

Impact Assessment – Amended Proposal

Further traffic and transport assessment has been conducted in relation to the Amended Proposal and this has included an Addendum Impact Assessment – Operational Traffic, prepared by Arcadis (2017) (refer to Appendix C of this RTS). The main findings of the further assessment are summarised below.

Construction

A summary of the key findings of the further traffic impact assessment, from a construction perspective, are provided in Table 7-1. The assessment concludes that construction traffic impacts associated with the Amended Proposal would be consistent with the EIS.

Table 7-1: Summary of the construction traffic impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter construction traffic numbers or distribution, and therefore would not change the findings of the construction traffic assessment included in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	<p>The proposed drainage works would not alter construction traffic numbers or distribution, and therefore would not change the findings of the construction traffic assessment included in the EIS.</p> <p>Temporary traffic impacts during construction, would be effectively managed through the implementation of a CEMP as required in REMM 1B of the MPW Concept Approval. Access to the neighbouring properties, including the ABB site, would be maintained at all times, which is consistent with the REMMs provided in the MPW Concept Approval and mitigation measure 1A of the EIS.</p> <p>Overall, subject to the implementation of the existing REMMs and mitigation measures, the traffic and transport impacts of the Amended Proposal would be minor and would be adequately managed. No further detailed assessment is considered necessary in relation to this amendment.</p>
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not alter construction traffic numbers or distribution, and therefore would not change the findings of the construction traffic assessment included in the EIS. No further assessment is considered necessary in relation to this amendment.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter construction traffic numbers or distribution, and therefore would not change the findings of the construction traffic assessment included in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not substantially alter the construction activities required for the Proposal, and therefore would not alter construction traffic generation and distribution. While construction at the Moorebank Avenue/Anzac Road intersection would be about three months longer with the amendment to the Proposal, consistent with Section 7.4.1 of the EIS, it is still expected to operate at an acceptable level of service during the construction period. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not alter construction traffic numbers or distribution, and therefore would not change the findings of the construction traffic assessment included in the EIS. No further assessment is considered necessary in relation to this amendment.

Operation

A summary of the key findings of the further traffic impact assessment, from an operational perspective, are provided in Table 7-2. The assessment concludes that operational traffic impacts associated with the Amended Proposal would be consistent with the EIS, but with reduced average delays. Further traffic modelling was

conducted in relation to the ultimate layout of the Moorebank Avenue/Anzac Road intersection and the outcomes are reported below.

Table 7-2: Summary of the operational traffic impact assessment for the Amended Proposal

Amendment	Assessment
Hours of warehousing operations	<p>The operational traffic impact assessment included in the EIS assumed 24-hour operation of the warehouses, with the trip generation, distribution and potential impacts assessed on this basis. The EIS therefore covers this amendment to the Proposal and no further assessment is considered necessary.</p>
Drainage works	<p>Maintenance of the proposed drainage infrastructure would be required during the operation of the Amended Proposal. This would be infrequent, of short duration and would generate minimal additional vehicles movements.</p> <p>Any maintenance activities would be undertaken in accordance with the procedures in the OEMP for the MPW site, which would be prepared and implemented periodically as identified in REMM 1B of the MPW Concept Approval. The OEMP would include an OTMP.</p> <p>Overall, the traffic movements generated by maintenance associated with the proposed stormwater drainage works would be small and would be consistent with the overall number of operational vehicles contemplated by the MPW Concept Approval.</p>
Container wash-down facilities and de-gassing areas	<p>The inclusion of the proposed container wash-down facilities and de-gassing areas would result in minor changes to vehicle movements within the Proposal site (primarily the IMT facility), but would not result in any significant change to overall vehicles travelling to the Proposal site. No further assessment is considered necessary in relation to this amendment.</p> <p>Vehicle movements within the Proposal Site would be managed in accordance with the procedures in the OEMP, which would be prepared and implemented periodically as identified in REMM 1B of the MPW Concept Approval. This would include preparation of an OTMP.</p>
Illuminated backlit signage	<p>Changes to the scale of illuminated signage within the warehousing area during operation would assist wayfinding for vehicles accessing this part of the Proposal Site. This change would not result in any change to the overall number of vehicles travelling to the Proposal site. No further assessment is considered necessary in relation to this amendment.</p>
Upgraded layout for Moorebank Avenue/Anzac Road intersection	<p>Implementation of the upgraded layout for the Moorebank Avenue / Anzac Road intersection is expected to increase intersection capacity and either improve or maintain intersection operation when compared to the intersection layout considered in the EIS. Further assessment, including traffic modelling, was conducted to assess the effects of this change and the results are provided below.</p>
Adjustments to warehouse layouts	<p>The Amended Proposal involves changes to warehouse sizes and positioning within the MPW site. However, the resulting warehouse gross floor area would remain unchanged from that considered by the EIS at 215,000 m². No changes to traffic generation and operational traffic impacts are therefore expected and further assessment is not considered necessary in relation to this amendment.</p> <p>Access to the warehouses under the Amended Proposal would be from three main entrances off the internal access road, compared with two main entrances proposed in the EIS. The higher number of</p>

Amendment	Assessment
	entrances would facilitate improved traffic dispersal along the internal road.

To assess the potential traffic impacts associated with the amendments to the Proposal, the AIMSUM model used for the EIS was modified to include the ultimate layout of the Moorebank Avenue / Anzac Road intersection. The modelling assumptions included in the model used for the EIS were otherwise unchanged.

Table 7-3 and Table 7-4 summarise the modelling results for Scenario 1 (with MPW Stage 2 Proposal + Upgrades as per EIS) for 2019 and 2029, AM and PM peak periods.

Table 7-5 and Table 7-6 summarise the modelling results for Scenario 2 (with Cumulative Development (i.e. MPW Stage 2 and MPE Stage 1) + Upgrades) for 2019 and 2029, AM and PM peak periods.

Table 7-3 2019 With and Without Proposal (Existing Layout, EIS Layout and Ultimate Intersection Layout) – Scenario 1

ID	Intersection	2019 without Proposal (Existing Layout at Moorebank Avenue / Anzac Road intersection)				2019 with Proposal (MPW Stage 2 Proposal EIS Layout at Moorebank Avenue / Anzac Road intersection)				2019 with Amended Proposal (Ultimate Layout at Moorebank Avenue / Anzac Road intersection)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)	
		Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
I-1	Moorebank Avenue / Anzac Road / MPW access road	24	B	16	B	41	C	42	C	39	C	31	C
I-2	M5 Motorway / Moorebank Avenue	49	D	28	B	20	B	20	B	20	B	20	B
I-3	M5 Motorway / Hume Highway	134	F	32	C	56	E	28	B	59	E	28	B
I-4	Moorebank Avenue / Newbridge Road	44	D	31	C	47	D	37	C	55	D	33	C
I-5	Moorebank Avenue / Heathcote Road	53	D	44	D	75	F	34	C	74	F	31	C
I-6	M5 Motorway / Heathcote Road	78	F	69	E	31	C	36	C	37	C	35	C
I-7	Cambridge Avenue / Glenfield Road	8	A	12	A	8	A	12	A	8	A	10	A
I-8	Cambridge Avenue / Canterbury Road	10	A	7	A	8	A	7	A	9	A	6	A

Table 7-4 - 2029 With and Without Proposal Development (Existing Layout, EIS Layout and Ultimate Intersection Layout) – Scenario 1

ID	Intersection	2029 without Proposal (Existing Layout at Moorebank Avenue / Anzac Road intersection)				2029 with Proposal (MPW Stage 2 Proposal EIS Layout at Moorebank Avenue / Anzac Road intersection)				2029 with Amended Proposal (Ultimate Layout at Moorebank Avenue / Anzac Road intersection)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)	
		Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
I-1	Moorebank Avenue / Anzac Road / MPW access road	52	D	95	F	53	D	45	D	47	D	33	C
I-2	M5 Motorway / Moorebank Avenue	74	F	125	F	30	C	38	C	33	C	37	C
I-3	M5 Motorway / Hume Highway	155	F	129	F	73	F	38	C	68	E	39	C
I-4	Moorebank Avenue / Newbridge Road	48	D	94	F	50	D	42	C	46	D	47	D
I-5	Moorebank Avenue / Heathcote Road	66	E	153	F	70	E	78	F	68	E	80	F
I-6	M5 Motorway / Heathcote Road	46	D	336	F	38	C	77	F	40	C	70	E
I-7	Cambridge Avenue / Glenfield Road	10	A	7	A	9	A	8	A	8	A	8	A
I-8	Cambridge Avenue / Canterbury Road	14	B	10	A	20	B	7	A	18	B	8	A

Table 7-5 - 2019 With and Without Cumulative Development (Existing Layout, EIS Layout and Ultimate Intersection Layout) – Scenario 2

ID	Intersection	2019 without Proposal (Existing Layout at Moorebank Avenue / Anzac Road intersection)				2019 with Cumulative (MPW Stage 2 Proposal EIS Layout at Moorebank Avenue / Anzac Road intersection)				2019 with Cumulative (Ultimate Layout at Moorebank Avenue / Anzac Road intersection)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)	
		Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS
I-1	Moorebank Avenue / Anzac Road / MPW access road	24	B	16	B	42	D	44	D	39	C	37	C
I-2	M5 Motorway / Moorebank Avenue	49	D	28	B	21	B	36	C	20	B	38	C
I-3	M5 Motorway / Hume Highway	134	F	32	C	56	D	29	C	63	E	30	C
I-4	Moorebank Avenue / Newbridge Road	44	D	31	C	42	D	35	C	46	D	34	C
I-5	Moorebank Avenue / Heathcote Road	53	D	44	D	71	F	33	C	67	E	32	C
I-6	M5 Motorway / Heathcote Road	78	F	69	E	32	C	35	C	30	C	36	C
I-7	Cambridge Avenue / Glenfield Road	8	A	12	A	8	A	12	A	8	A	13	A
I-8	Cambridge Avenue / Canterbury Road	10	A	7	A	8	A	7	A	8	A	7	A

Table 7-6 - 2029 With and Without Cumulative Development (Existing Layout, EIS Layout and Ultimate Intersection Layout) – Scenario 2

ID	Intersection	2029 without Proposal (Existing Layout at Moorebank Avenue / Anzac Road intersection)				2029 Cumulative (MPW Stage 2 Proposal EIS Layout at Moorebank Avenue / Anzac Road intersection)				2029 Cumulative (Ultimate Layout at Moorebank Avenue / Anzac Road intersection)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)		(8-9am)		(5-6pm)	
		Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS
I-1	Moorebank Avenue / Anzac Road / MPW access road	52	D	95	F	52	D	57	E	47	D	37	C
I-2	M5 Motorway / Moorebank Avenue	74	F	125	F	35	C	53	D	33	C	60	E
I-3	M5 Motorway / Hume Highway	155	F	129	F	75	F	39	C	74	F	56	E
I-4	Moorebank Avenue / Newbridge Road	48	D	94	F	43	D	51	D	45	D	51	D
I-5	Moorebank Avenue / Heathcote Road	66	E	153	F	62	E	85	F	61	E	83	F
I-6	M5 Motorway / Heathcote Road	46	D	336	F	34	C	69	E	35	C	109	F
I-7	Cambridge Avenue / Glenfield Road	10	A	7	A	8	A	8	A	9	A	7	A
I-8	Cambridge Avenue / Canterbury Road	14	B	10	A	15	B	8	A	18	B	7	A

The proposed upgraded layout for the Moorebank Avenue / Anzac Road intersection is predicted to increase intersection capacity and either improve or maintain the intersection performance when compared to the intersection layout adopted in the EIS.

In 2019 and 2029 under Scenario 2, the intersection performance of a number of intersections is reduced. As the only modification to the operational traffic model was the inclusion of the upgraded Moorebank Avenue/ Anzac Road intersection layout, reductions in the LoS at these intersections is a result of variability in the operational traffic model in the 2029 under both Scenario 1 and Scenario 2. Variability in the traffic modelling analysis for 2029 is indicative of a heavily congested road network and insufficient network-wide capacity. In these circumstances, where there are any capacity changes in one part of the network, re-distribution occurs across the network resulting in inconsistent results at intersections that otherwise would not experience any actual changes in performance.

The following key findings have been identified from the revised traffic modelling and analysis:

Scenario 1 (operation of the Proposal only, with the amendments)

- In 2019 under Scenario 1, all intersections, including Moorebank Avenue / Anzac Road, would continue to operate at a LoS in the AM and PM peak consistent with the operational traffic and transport impact assessment prepared for the EIS. There would be minor increases in delay (less than ten seconds) at the M5 Motorway / Hume Highway, Moorebank Avenue / Newbridge Road and M5 Motorway / Heathcote Road intersections, but no change to intersection level of service.
- In 2029 under Scenario 1 there would be some changes to delay and LoS in the AM and PM peak when compared with the operational traffic and transport impact assessment prepared for the EIS. The predicted changes to delay are minor (less than ten seconds). The predicted LoS changes are as follows:
 - Moorebank Avenue / Anzac Road / MPW access road – PM peak improves from LoS D to LoS C
 - M5 Motorway/ Hume Highway – AM peak improves from LoS F to LoS E
 - Moorebank Avenue / Newbridge Road – PM peak deteriorates from LoS C to LoS D
 - M5 Motorway/ Heathcote Road – PM peak improves from LoS F to LoS E.

Scenario 2 (cumulative operational scenario (MPW Stage 2 and MPE Stage 1 plus upgrades as per EIS), with the amendments)

- In 2019 under Scenario 2, Moorebank Avenue/ Anzac Road performance would improve from a LoS E to a LoS C in the AM and PM peak.
- In 2019 under Scenario 2, all other intersections would continue to operate at an acceptable LoS in the AM and PM peak consistent with the OTTIA prepared for the EIS, with the exception of the following intersections:
 - The M5 Motorway/ Hume Highway, where the intersection performance would reduce from a LoS D to a LoS E in the AM peak. Note however that the delay of 56 seconds at this intersection without the Proposal is at the upper/lower threshold between for LoS D and LoS E (i.e. up to 56 seconds for LoS D and over 57 seconds for LoS E). This means that only a small increase in delay results in a reduced LoS.

- Moorebank Avenue / Heathcote Road, where intersection performance is predicted to improve from a LoS F to a LoS E in the AM peak (although this is attributable to model variability under congested conditions rather than directly to the Modification Proposal).
- In 2029 under Scenario 2, Moorebank Avenue/ Anzac Road performance would improve from a LoS E to a LoS C in the AM and PM peak.
- In 2029 under Scenario 2, all intersections would continue to operate at a LoS in the AM and PM peak consistent with the operational traffic and transport impact assessment prepared for the EIS, with the exception of the following intersections in the PM peak:
 - The M5 Motorway/ Moorebank Avenue, where intersection performance would reduce from a LoS D to a LoS E.
 - The M5 Motorway/ Hume Highway, where intersection performance would reduce from a LoS C to a LoS E.
 - The M5 Motorway/ Heathcote Road, where intersection performance would reduce from a LoS E to a LoS F.

Summary

The results presented above show that the traffic impacts associated with the Amended Proposal would be generally consistent with the EIS. In 2019 there would be only minor changes (both increases and reductions) in intersection delay, but no changes in LoS. In 2029, predicted changes in intersection delay would again be minor, but there would be improvements to LoS at the Moorebank Avenue / Anzac Road / MPW access road intersection (PM peak), the M5 Motorway/ Hume Highway intersection (AM peak) and the M5 Motorway / Heathcote Road intersection (PM peak). A deterioration in LoS is predicted for the Moorebank Avenue / Newbridge Road in the PM peak.

For the cumulative operational scenario (MPW Stage 2 and MPE Stage 1 plus upgrades as per EIS), the AM and PM peak performance of the Anzac Road / Moorebank Avenue intersection would be improved in both 2019 and 2029. While a reduced level of service is predicted for the M5 Motorway/ Hume Highway intersection in 2019, predicted increase in delay is less than ten seconds.

While the modelling also indicates that for the cumulative operational scenario in 2029 the performance of several other intersections would be reduced, this is largely due to variability in the traffic modelling that occurs under heavily congested conditions. When capacity is added in these circumstances re-distribution occurs across the network resulting in inconsistent results at intersections that otherwise would not experience any actual changes in performance due to the changes.

Mitigation measures

Construction

This assessment concludes that the amendments to the Proposal would result in construction phase traffic and transport impacts generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 7.5.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the amendments would result in operation phase traffic and transport impacts generally consistent with those already identified and assessed as part of the EIS.

The upgraded layout for the Moorebank Avenue / Anzac Road intersection is predicted to increase intersection capacity and either improve or maintain the intersection performance when compared to the intersection layout adopted in the EIS. As the inclusion of the upgraded layout was the only change to the operational traffic model, reductions in the LoS at other intersections is attributable to variability in the operational traffic model, which occurs where there is heavily congested road network, there are changes to capacity and traffic is redistributed within the model.

The mitigation measures outlined in Section 7.5.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.2 Noise and Vibration

MPW Stage 2 Proposal

A Noise and Vibration Impact Assessment was prepared by Wilkinson Murray (2016) for the EIS to assess the potential noise and vibration impacts arising from the construction and operation of the Proposal. Potential noise and vibration impacts were assessed in general accordance with the following NSW Government guidelines and policies:

- NSW Industrial Noise Policy (INP) (EPA, 2000)
- Noise Guide for Local Government (NGLG) (EPA, 2013)
- NSW Road Noise Policy (RNP) (DECCW, 2011)
- Rail Infrastructure Noise Guideline (RING) (EPA, 2013)
- Interim Construction Noise Guideline (ICNG) (DECC, 2009)
- Assessing Vibration: a technical guide (Assessing Vibration) (DEC, 2006).

This assessment considered each works period for the construction phase and determined that the construction noise emissions are expected to comply with the established Noise Management Levels (NML) at all sensitive receivers, with the exception of Casula, where construction noise levels during bulk earthworks are predicted to exceed the NML by 1 dBA. This exceedance is considered negligible and does not warrant mitigation. Construction noise levels during all proposed out of hours works periods are predicted to comply with the NML at all times.

Cumulative construction noise levels due to concurrent activities associated with MPW Early Works, MPE Stage 1 and the Proposal are predicted to comply with the NMLs at all receivers, with the exception of Casula, which exceeds the NML at the most affected residential receivers by up to 2 dBA. This is considered a negligible exceedance.

The assessment also concluded that given the substantial setback distances to nearby receivers, construction vibration impacts are unlikely.

The Noise and Vibration Impact Assessment also found that the operational noise levels from the Proposal would comply with the relevant criteria, including relevant sleep disturbance goals. Additionally, cumulative noise levels due to the concurrent operation of the Proposal and the MPE Stage 1 Proposal are predicted to comply with the established criteria.

An assessment of road noise was undertaken in accordance with the RNP criteria and using the Calculation of Road Traffic Noise (CORTN) algorithm. The assessment concluded that increases in road traffic noise as a result of the Proposal are considerably less than 2 dBA and are therefore compliant with the RNP.

An assessment of rail noise from the Proposal was undertaken in accordance with the RING and previous submissions from the EPA. L_{Aeq} and L_{Amax} rail noise levels at the most sensitive residential receivers near the Rail link are predicted to exceed the project specific rail noise criteria. However, due to the proximity of these receivers to the SSFL, rail movements associated with the Proposal are not expected to result in a noticeable change to the existing L_{Aeq} and L_{Amax} rail noise levels.

A Construction Noise and Vibration Management Plan (CNVMP) would be developed for the Proposal, considering all reasonable and feasible measures to reduce noise levels at sensitive receivers.

Impact Assessment – Amended Proposal

An Addendum Impact Assessment – Noise was prepared by Wilkinson Murray (2017) (refer to Appendix D of this RtS) to assess the potential noise and vibration impacts associated with the Amended Proposal.

Construction

A summary of the key findings of the further noise impact assessment, from a construction perspective, are provided in Table 7-7. The assessment concludes that construction noise impacts associated with the Amended Proposal would be consistent with the EIS, except for some additional noise at the ABB site, DJLU site and at the worst affected residential receivers in Wattle Grove. For these receivers, construction noise would still be below the applicable NML.

Further noise modelling and assessment was conducted in relation to drainage works on the ABB site and the ultimate layout of the Moorebank Avenue / Anzac Road intersection. The outcomes are reported below.

Table 7-7: Summary of the construction noise impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction noise and vibration impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	The proposed construction works, methods or program required for the drainage works would be generally consistent with those identified and assessed in the EIS. Additionally, the number and types of plant and equipment would also remain largely the same. Changes to predicted construction noise impacts are not expected as a result of this amendment and no further assessment is therefore considered necessary.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would occur within the construction footprint identified by the EIS and would not significantly change the required construction works, methods or program. The number and types of plant and equipment would also remain largely the same. Changes to predicted construction noise impacts are not expected as a result of this amendment and no further assessment is therefore considered necessary.

Amendment	Assessment
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the construction activities required for the Proposal, and therefore would not alter the assessment of noise and vibration impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue would result in works along Moorebank Avenue occurring for an additional three months, and would result in works being conducted closer to DJLU. Further assessment was conducted to assess the effects of this amendment and the results are provided below.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction noise and vibration impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.

Construction noise predictions for the Amended Proposal were made considering additional construction plant and any changes in the distance from works to noise sensitive receivers. Exceedances of NMLs were identified for standard hours only as works for the Amended Proposal would not occur outside standard hours. The predicted $L_{Aeq, 15min}$ construction noise levels at the most potentially affected receivers due to the Amended Proposal are presented in *Table 7-8*.

Table 7-8: Predicted construction noise levels – Amended Proposal (Standard hours)

Receiver	Moorebank Avenue and Internal Roads		NML	Incremental Impact?	Exceedance
	Proposal	Amended Proposal			
Casula	44	44	49	No	0 dB
Glenfield	30	30	45	No	0 dB
Wattle Grove	31	37	45	Yes	0 dB
S1	43	43	55	No	0 dB
S2	42	42	55	No	0 dB
MPE (I1)	45	45	75	No	0 dB
DJLU (I2)	38	64	75	Yes	0 dB
ABB (I3)	47	47	75	No	0 dB

Note: Bulk earthworks and Moorebank Avenue / internal road works are the most relevant construction stages for the Amended Proposal.

As shown in *Table 7-8*, the Amended Proposal would not result in any exceedances of NMLs, but would result in additional construction noise impacts on the DJLU site and at the most affected residential receivers in Wattle Grove.

Construction noise levels at the most affected receivers in Wattle Grove and at the DJLU site during the Moorebank Avenue / Anzac Road intersection works would increase due to works moving closer to a portion of the DJLU site. These impacts would also be experienced over a longer period, but the predicted $L_{Aeq, 15min}$ construction noise levels would remain below the established NMLs under the Amended Proposal.

Operation

A summary of the key findings of the further noise impact assessment, from an operational perspective, are provided in Table 7-9. The assessment concludes that operational noise impacts associated with the Amended Proposal would be consistent with the EIS. Further noise modelling and assessment was conducted in relation to the proposed container washdown / degassing area and the revised warehouse layout. The outcomes are reported below.

Table 7-9: Summary of the operational noise assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would expose receivers to any night-time operational noise for a longer duration. An assessment of potential operational noise associated with the Amended Proposal is provided below.
Drainage works	Maintenance of the proposed drainage infrastructure would be required during the operation of the Amended Proposal. This would be infrequent, of short duration, would generate minimal additional vehicles movements and is expected to have minimal noise impacts for the nearest receivers. The proposed drainage infrastructure would not alter the noise attenuation offered by proposed site buildings and structures. No further assessment is considered necessary in relation to this amendment.
Container wash-down facilities and de-gassing areas	Noise sources associated with container de-gassing and wash-down facilities have the potential to alter operational noise impacts associated with the Proposal. Further assessment was conducted to assess the effects of this change and the results are provided below.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not introduce a new operational noise source or change the operational noise sources assessed as part of the EIS. It would also not alter the noise attenuation offered by proposed site buildings and structures. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	While the upgraded layout for the Moorebank Avenue/Anzac Road intersection would involve some changes to the road geometry, the distance to the nearest sensitive receivers means that changes road traffic noise levels at sensitive receivers are unlikely. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Changes to the warehouse layout and internal roads has the potential to alter the distance between noise source and receivers and change the noise attenuation effect of the warehouse structures. In turn, this has the potential to affect operational noise levels at the nearest noise sensitive receivers. Further assessment was conducted to assess the effects of this amendment and the results are provided below.

The predicted $L_{Aeq, 15min}$ (for consideration against INP intrusiveness criteria) and $L_{Aeq, period}$ (for consideration against INP amenity criteria) operational noise levels at the most potentially affected sensitive receivers are presented for the Amended Proposal in Table 7-10 and Table 7-11, respectively.

Table 7-10: Predicted $L_{Aeq, 15min}$ Operational Noise Levels – Amended Proposal - Intrusiveness

Receiver	Predicted $L_{Aeq, 15min}$ Noise Level (dBA)				INP intrusiveness Criteria (dBA)			Exceedance?
	Day ¹	Evening ¹	Night ¹		Day ¹	Evening ¹	Night ¹	
			Calm ²	Adverse ³				
Casula	35	35	35	39	44	44	38	Up to 1 dB
Glenfield	<20	<20	<20	<20	40	40	38	0 dB
Wattle Grove	32	32	32	36	40	40	37	0 dB

1. Daytime = 7.00am-6.00pm; Evening = 6.00pm-10.00pm; Night = 10.00pm 7.00am.

2. CONCAWE Category 4.

3. CONCAWE Category 6.

Table 7-11: Predicted $L_{Aeq, period}$ Operational Noise Levels – Amended Proposal - Amenity

Receiver	Predicted $L_{Aeq, 15min}$ Noise Level (dBA)				INP amenity Criteria (dBA)			Exceedance?
	Day ¹	Evening ¹	Night ¹		Day ¹	Evening ¹	Night ¹	
			Calm ²	Adverse ³				
Casula	32	32	31	35	54	45	40	0 dB
Glenfield	<20	<20	<20	<20	54	45	40	0 dB
Wattle Grove	29	29	28	32	54	45	40	0 dB
S1	22	22	21	24	45 (external, when in use)			0 dB
S2	25	25	24	28	45 (external, when in use)			0 dB
MPE (I1)	60	60	60	60	70 (external, when in use)			0 dB
DJLU (I2)	56	56	56	57	70 (external, when in use)			0 dB
ABB (I3)	51	48	48	48	70 (external, when in use)			0 dB

1. Daytime = 7.00am-6.00pm; Evening = 6.00pm-10.00pm; Night = 10.00pm 7.00am.
2. CONCAWE Category 4.
3. CONCAWE Category 6.

The results in Table 7-10 and Table 7-11 show that the predicted $L_{Aeq, 15min}$ and $L_{Aeq, period}$ noise levels for the Amended Proposal would generally comply with the established INP intrusiveness and amenity criteria.

At some residential receivers in Casula, noise levels are predicted to exceed the intrusiveness criterion by up to 1 dB. Exceedances of up to 1 dB are consistent with the EIS and are considered negligible. There would be no additional exceedances associated with the Amended Proposal.

The Addendum Impact Assessment – Noise also identified that at the most affected residential receivers in Casula, $L_{Aeq, 15min}$ and $L_{Aeq, period}$ operational noise levels would decrease by 1 dB during the daytime and evening, and $L_{Aeq, period}$ operational noise levels would increase by 1 dB during the night time. These are small changes, are partly attributable to rounding and would not result in additional exceedances of INP intrusiveness and amenity criteria.

The Amended Proposal would not result in noise sources with significant L_{Amax} noise levels moving closer to, or being more exposed to the most affected residential receivers. Therefore, the predicted L_{Amax} noise levels and potential sleep disturbance impacts would be consistent with those identified in the EIS.

Mitigation measures

Construction

This assessment concludes that for most residential receivers the amendments would result in construction noise impacts consistent with those already identified and assessed as part of the EIS.

The Amended Proposal would result in additional construction noise impacts at the DJLU site and at the most affected residential receivers in Wattle Grove. There would also be longer duration impacts for the DJLU site and the most affected residential receivers in Wattle Grove. Predicted construction noise levels all sites are, however, still predicted to be well below the established NML.

The mitigation measures outlined in Section 8.5.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that for residential receivers the amendments would result in operational noise impacts generally consistent with those already identified and assessed as part of the EIS. There would be no additional exceedances of INP criteria associated with the Amended Proposal.

The mitigation measures outlined in Section 8.5.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.3 Air Quality

MPW Stage 2 Proposal

An Air Quality Impact Assessment was prepared by Ramboll Environ (2016) for the EIS to assess the potential air quality impacts arising from the construction and operation of the Proposal. The construction phase of the Proposal would involve site clearing, bulk earthworks and placement of engineering fill, which would generate dust emissions. Exhaust emissions from operation of construction vehicles and plant would also generate particulate emissions. These impacts can be effectively controlled through the implementation of standard control measures, including the use of water carts on haul roads and during other particulate emission generating construction activities. The Air Quality Management Plan, included in the Air Quality Impact Assessment would be further progressed and incorporated into the CEMP for the Proposal.

Emissions to air associated with operation of the Proposal were calculated for the key air pollutants associated with diesel combustion, being:

- Particulate matter (PM₁₀ and PM_{2.5})
- Nitrogen oxides (NO_x)
- Sulfur dioxide (SO₂)
- Carbon monoxide (CO)
- Speciated HC / VOCs – benzene, 1,3-butadiene and PAHs.

The modelling results indicated that the construction phase emissions would comply with all relevant impact assessment criteria. The predicted increase in annual average PM₁₀, PM_{2.5}, Total Suspended Particulate matter (TSP) and dust deposition are considered minor, when compared against existing background conditions. Cumulative predictions are also presented and the results indicate that the construction for the Proposal would result in no additional days over the criteria.

For the operational phase of the Proposal the maximum increase in PM₁₀ and PM_{2.5} is minor when compared to existing background conditions. When background is added, there are no additional exceedances of the short term impact assessment criteria. The annual average background concentrations of PM_{2.5} already exceed the NEPM reporting standard, therefore cumulative predictions are also above the standard at all receptors. It is noted, however, that despite the existing exceedance of the annual average background concentration, the Proposal results in a relatively minor additional increase in annual average PM_{2.5} (<0.4 µg/m³ at all sensitive receptors). The predicted NO₂, CO, SO₂ and VOC concentrations are well below the relevant impact assessment criteria.

Measures to further mitigate air quality impacts would be implemented as per the Air Quality Management Plan, included in the Air Quality Impact Assessment, and would be included in the OEMP, including:

- Implementation and communication of anti-idling policy for trucks and locomotives
- Complaints line for the community to report on excessive idling and smoky vehicles
- Procedures to reject excessively smoky trucks visiting the site based on visual inspection.

Impact Assessment – Amended Proposal

An Addendum Impact Assessment – Air Quality was prepared by Ramboll Environ (2017) (refer to Appendix E of this RtS) to assess the potential air quality impacts associated with the Amended Proposal.

Construction

A summary of the key findings of the further air quality impact assessment, from a construction perspective, are provided in Table 7-12. The assessment concludes that construction air quality impacts associated with the Amended Proposal would be consistent with the EIS. Updated predictions have been prepared to reflect the changes in the modelling assumptions and these are presented below.

Table 7-12: Summary of the construction air quality impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction air quality impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Inclusion of the OSD along the eastern boundary of the MPW site (western side of Moorebank Avenue)	Inclusion of the OSD along the eastern boundary of the Proposal site would occur within the construction footprint identified by the EIS and would not significantly change the required construction works, methods or program. Further, the number and types of plant and equipment would remain largely the same. In this context, changes to the emissions inventory used for the EIS and predicted construction air quality impacts are not expected and no further assessment is considered necessary.
Drainage works	The proposed construction works, methods or program required for the drainage works would be generally consistent with those identified and assessed in the EIS. Further, the number and types of plant and equipment would remain largely the same. In this context changes to the emissions inventory used for the EIS and predicted construction air quality impacts are not expected and no further assessment is considered necessary.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not alter the construction activities required for the Proposal, and therefore would not significantly change the required construction works, methods or program. Air quality impacts associated with this amendment would be consistent with those presented in the EIS and no further assessment is considered necessary.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the construction activities required for the Proposal, and therefore would not alter the construction air quality assessment included in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction air quality impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction air quality impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.

Operation

A summary of the key findings of the further air quality impact assessment, from an operational perspective, are provided in Table 7-13. The assessment concludes that construction air quality impacts associated with the Amended Proposal would be consistent with the IS.

Table 7-13: Summary of the operational air quality impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	<p>Revised hours for warehousing operations would not increase emissions for sources associated with warehousing (heating/cooling, internal transfer vehicles, operation of forklifts).</p> <p>For warehouse heating and cooling, there would be no increase in the estimated energy demand and therefore emissions estimates do not change for this source.</p> <p>For internal transfer vehicles, emissions were estimated based on activity data that are independent of the hours of operation (i.e. travel distance and number of vehicle per day), therefore emissions estimates do not change for this source.</p> <p>The change to 24 hour operations would not increase the actual operational hours for forklifts and therefore emissions estimates for this source would not change. This is because the total freight processed would be diluted over a longer operational period and therefore the intensity of forklift use would be reduced corresponding to the longer operational hours.</p>
Drainage works	<p>Maintenance of the proposed drainage infrastructure would not result in changes to operational traffic movements or other emissions sources assessed in the EIS. Maintenance would be infrequent and any additional vehicles travelling to the Proposal site would be negligible. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Container wash-down facilities and de-gassing areas	<p>The use of the proposed container wash down facility would not result in any changes to the emissions estimates presented in the EIS and therefore no further assessment of that amendment is required</p> <p>During the operation of the Proposal site there will be a requirement to conduct fumigation in relation to targeted products or products from places deemed high risk by Australian Government Department of Agriculture and Water Resources. This would involve the use of methyl bromide to destroy vermin and pests, and treated containers would then need to be de-gassed.</p> <p>The proposed de-gassing system would include fan forced ventilation for container residual gas extraction and collection. Where fumigation is required, a recapture system would be used to collect and treat residual gas emissions. The proposed de-gassing and recapture system for fumigation would use carbon filtration to control emissions of methyl bromide. Fugitive emissions from de-gassing and fumigation are not expected and therefore no further quantitative assessment is required.</p> <p>While methyl bromide is a highly effective fumigant used to protect Australia's biosecurity interests, it is also an ozone depleting substance (ODS)</p> <p>Since 1 January 2005, all uses of methyl bromide, other than for certified Quarantine and Pre-Shipment (QPS), approved feedstock applications, or approved under critical use exemptions, have been prohibited in Australia under the <i>Ozone Protection and Synthetic Greenhouse Gas Management Act 1989</i>.</p>

Amendment	Assessment
	Use of methyl bromide at the Proposal site would be for QPS treatment and would occur in accordance with the requirements of the Act and the AFAS Methyl Bromide Fumigation Standard (August 2015).
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the emissions predictions presented in the EIS. No further assessment for this amendment is considered necessary.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Implementation of the upgraded layout for the Moorebank Avenue/Anzac Road intersection would not alter the emissions predictions presented in the EIS. No further assessment for this amendment is considered necessary.
Adjustments to warehouse layouts	The proposed changes to the warehouse layout would not alter the emissions predictions presented in the EIS. Therefore, no further assessment for this amendment is considered necessary.

Mitigation measures

Construction

This assessment concludes that the amendments to the Proposal would result in construction phase air quality impacts generally consistent with those already identified and assessed as part of the EIS. There would be no change to construction emissions attributable to the Amended Proposal.

The mitigation measures outlined in Section 9.5.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the amendments to the Proposal would result in operation phase air quality impacts generally consistent with those already identified and assessed as part of the EIS. There would be no change to operational emissions attributable to the Amended Proposal.

The mitigation measures outlined in Section 9.5.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.4 Human Health

MPW Stage 2 Proposal

A Health Risk Assessment (HRA) was prepared by Ramboll Environ (2016) for the EIS to assess potential health risks posed by the air and noise emissions on the surrounding community arising from the construction and operation of the Proposal.

The HRA was undertaken in accordance with approved Australian guidance for performing risk assessments, including:

- *Health Impact Assessment – A Practical Guide - Centre for Health Equity Training, Research and Evaluation (CHETRE, 2007)*

- *Environmental Health Risk Assessment: Guidelines for Assessing Human Health Risks from Environmental Hazards* (enHealth, 2012a).

The focus of the air quality HRA was on the health impacts of emissions from the operation of the Proposal. The key air pollutants evaluated in the local air quality assessment were considered as chemicals of potential concern (COPCs) and inhalation of air was the only exposure pathway evaluated. The air quality HRA evaluated a range of health endpoints associated with the key air pollutants, including increases in mortality and morbidity as well as excess lifetime cancer risks.

The results of the HRA found that the increase in risk due to air pollution from the operation of the Proposal are low or negligible. The cancer risk from the air toxins are well below acceptable risk levels set by international agencies. The implementation of best practice measures as outlined in the Air Quality Best Practice Review for the EIS would lead to further reductions in air pollution levels and the associated health risks.

The noise HRA has investigated the impact of noise from operation of the Proposal and rail noise on sleep disturbance, annoyance and cognitive impairment using the World Health Organisation (WHO) community noise guidelines. The noise from both operation of the Proposal and cumulative assessment scenario meets the WHO community noise guidelines at all residential receivers. A Hazard Quotient (HQ) greater than 1 was predicted for annoyance and cognitive impairment at the nearest industrial receivers, however, the HQs for existing ambient noise already exceed 1 for annoyance and cognitive impairment at these receivers.

Similarly, although rail noise and total noise exceed the WHO community noise guidelines, the existing ambient noise levels are already above these guidelines and on this basis the Proposal related noise is expected to have minimal additional impact on the local residential area. With the implementation of the best practice measures outlined in the Noise and Vibration Impact Assessment for the EIS, these exceedances would be minimised and as a result the risk to health of the local community would be low.

Note that the potential for human health exposure to PFAS, and measures to address this risk are discussed in 7.1.7 of this RtS.

Impact Assessment – Amended Proposal

An Addendum Impact Assessment – Human Health was prepared by Ramboll Environ (2017) (refer to Appendix F of this RtS) to assess the potential human health impacts associated with the Amended Proposal. The main findings of the assessment are summarised below.

Construction

A summary of the key findings of the further human health assessment, from a construction perspective, are provided in Table 7-14. The assessment concludes that construction air quality impacts associated with the Amended Proposal would be consistent with the EIS.

Table 7-14: Summary of the construction human health assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operations would not alter the construction activities required for the Proposal, and therefore would not alter the assessment of human health risks included in the EIS. No further assessment is considered necessary in relation to this amendment.

Amendment	Assessment
Drainage works	The proposed construction works, methods or program required for the drainage works would be generally consistent with those identified and assessed in the EIS. Further, the number and types of plant and equipment would remain largely the same. Changes to health risks assessed by the EIS are not expected and no further assessment is considered necessary.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not significantly alter the construction works, methods or program for the Proposal and would therefore not alter the assessment of human health risks in the EIS. No further assessment is considered necessary in relation to this amendment.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the construction activities required for the Proposal and therefore would not alter the assessment of human health risks included in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of human health risks included in the EIS. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of human health risks included in the EIS. No further assessment is considered necessary in relation to this amendment.

Operation

A summary of the key findings of the further human health assessment, from an operational perspective, are provided in Table 7-15. The assessment concludes that operation phase human health risks would be consistent with the EIS and there would be no significant change to health risks due to the Amended Proposal.

Table 7-15: Summary of the operational human health assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	<p>Revised hours for warehousing operations would not increase air emissions for sources associated with warehousing (heating/cooling, internal transfer vehicles, operation of forklifts) (refer to Section 7.1.3 of this RtS).</p> <p>No change to the annual incidences for the health endpoints evaluated in the EIS would occur as a result of the extended warehouse operational hours. Therefore, no significant adverse health effects are expected in relation to short-term and long-term exposure in the surrounding local area. The excess lifetime cancer risks associated with the Amended Proposal remain below the acceptable risk range of 10^{-6} to 10^{-4}.</p> <p>The predicted $L_{Aeq, period}$ and $L_{Aeq, 15min}$ operational noise levels for the Amended Proposal are generally consistent with those presented in the EIS. The outcomes and conclusions of the Noise</p>

Amendment	Assessment
	health risk assessment included in the EIS are therefore applicable to the Amended Proposal.
Drainage works	The proposed drainage works would not result in changes to the operational traffic movements or other emissions sources (air or noise) assessed in the EIS. No further assessment for this amendment is considered necessary.
Container wash-down facilities and de-gassing areas	The use of the proposed container wash down facility would not result in any changes to the air or noise emissions estimates presented in the EIS and therefore no further assessment of that amendment is required Fugitive emissions from de-gassing and fumigation are not expected and therefore no human health impacts associated with the use of methyl bromide are anticipated.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the assessment of health risks presented in the EIS. No further assessment for this amendment is considered necessary.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Implementation of the ultimate layout for the Moorebank Avenue/Anzac Road intersection would not alter health risks related to air quality or noise presented in the EIS. No further assessment for this amendment is considered necessary.
Adjustments to warehouse layouts	The proposed changes to the warehouse layout would not alter the assessment of health risks related to air quality or noise presented in the EIS. Therefore, no further assessment for this amendment is considered necessary.

Mitigation measures

Construction

The EIS did not include a construction stage health risk assessment on the basis that construction air emissions and noise impacts would be temporary, manageable and generally compliant with relevant criteria. The assessment of the Amended Proposal did not identify any further human health risks and no additional mitigation measures to manage air quality and noise are considered necessary (refer to Section 7.1.3 and Section 7.1.2 of this RtS respectively).

Operation

This assessment concludes that the Amended Proposal would result in operation phase human health risks generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 8.5 (for Noise) and 9.5 (for Air Quality) of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.5 Biodiversity

Assessment approach

This further assessment section outlines the results of the Biodiversity Assessment Report – Response to Submissions (Updated BAR), prepared by Arcadis (2017) and included at Appendix G of this RtS. In contrast to the assessment conducted for other environmental aspects in this RtS, which focus on the individual amendments to the Proposal, the assessment for biodiversity represents a full updated assessment of biodiversity impacts associated with the Amended Proposal, inclusive of the all elements of the Amended Proposal consolidated description (included in Appendix O of this RtS).

A full updated assessment of biodiversity impacts was needed to address the following:

- Additional threatened species surveys conducted in February and March 2017 to target *Hibbertia puberula* subsp. *puberula*, *Hibbertia fumana*, *Acacia bynoeana*, *Persoonia nutans* and *Grevillea parviflora* subsp. *parviflora*. *Hibbertia* spp. were targeted in response to these species being recorded on nearby lands subsequent to the public exhibition of the EIS.
- Revised vegetation mapping developed following additional site inspections conducted in 2017 and which has been updated to exclude areas that have now been identified as cleared or consisting of planted trees
- Updates to Framework for Biodiversity Assessment (FBA) calculations to incorporate revised and additional information and to respond to comments provided by government agencies during public exhibition of the EIS.
- Changes to the construction and operational footprint of the of the Proposal as a result of the amendments described in Section 6 of the RtS, including refinements to the design of drainage outlets and provision of an additional covered drain within the existing Endeavour Energy easement in the northern part of the MPW site.

The combination of the above meant that the existing environment assessed in the EIS was no longer representative and an updated assessment was warranted. Like the Updated BAR, this section represents a full assessment of the potential biodiversity impacts associated with the Amended Proposal. It therefore updates and replaces the assessment provided in Section 11 of the EIS.

In this section the term ‘Amended Development Site’ is used to describe the area of impact considered by the FBA assessment undertaken for the Amended Proposal. This term is not used elsewhere in this RtS, but has been used here to ensure consistency with the terminology adopted by the FBA. The area of impact considered in the MPW Concept EIS is referred to in this section as the ‘MPW Concept Development Site’. Key biodiversity terms are defined in the Updated BAR.

Assessment requirements

Table 7-16 sets out the Secretary’s Environmental Assessment Requirements (SEARs) as they relate to biodiversity, and where these have been addressed.

Table 7-16: SEARs relating to biodiversity

Section/ Number	Requirement	Where addressed in this RtS
12. Biodiversity	A Flora and Fauna assessment. The assessment shall: a) assess impacts on the biodiversity values of the site and adjoining areas, including Endangered (and vulnerable) Ecological Communities and threatened flora	Appendix G of this RtS

Section/ Number	Requirement	Where addressed in this RtS
	<p>and fauna species and their habitat, groundwater dependent ecosystems, impacts on wildlife and habitat corridors, riparian land, and habitat fragmentation and details of mitigation measures. The assessment shall be undertaken in accordance with the Framework for Biodiversity Assessment, unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i>;</p> <hr/> <p>b) consider of the OEH's <i>Threatened Species Survey and Assessment Guidelines</i> (www.environment.nsw.gov.au/threatenedspecies/surveyassessmentgdlns.htm), any relevant draft or final recovery plans, and Commonwealth <i>Significant Impact Guidelines</i>;</p> <hr/> <p>c) assess and document impacts related to the proposed project in accordance with the <i>Framework for Biodiversity Assessment</i> (OEH 2014), unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i>. This assessment shall include consideration of any new impacts that are outside of previous assessments;</p> <hr/> <p>d) include a comprehensive offset strategy, or provide an updated strategy (including any new impacts if relevant), in accordance with the NSW <i>Biodiversity Offsets Policy for Major Projects</i> including the <i>Framework for Biodiversity Assessment</i> (OEH 2014), consistent with the 'avoid, minimise or offset' principle</p>	<p>Appendix G of this RtS</p> <hr/> <p>Appendix G of this RtS</p> <hr/> <p>A Biodiversity Offset Plan (BOP) for the MPW Project is being prepared in response to the requirements of the MPW Concept Approval.</p>
8.Soil and Water	a) assess impacts on surface and groundwater flows, quality and quantity, with particular reference to any likely impacts on dragonfly species listed under the <i>Fisheries Management Act 1994</i> , the Georges River and Anzac Creek;	Appendix G of this RtS

MPW Concept Approval

The biodiversity impacts of the MPW Concept Project and Early Works were assessed by Parsons Brinckerhoff (PB) in an Ecological Impact Assessment (PB 2014) prepared for the MPW Concept EIS, and in a separate FBA prepared as part of the MPW Concept RtS (PB 2015). Although the technical papers prepared for the

MPW Concept EIS addressed the biodiversity values and assessed potential impacts across the entire MPW site, only the Early Works component of the MPW Project (i.e. Stage 1 of the MPW Project) include physical works which have been approved and impact on the biodiversity values of the MPW Concept Development Site.

The MPW Concept EIS was also prepared to address the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) assessment requirements for impacts to Matters of National Environmental Significance, including threatened species and ecological communities. The MPW Project was granted approval as a controlled action under the EPBC Act in mid-2016 (MPW EPBC Approval).

The vegetation within the MPW Concept Development Site consists predominantly of remnant and regrowth vegetation that has been subjected to weed invasion in some areas. Four vegetation communities were identified by PB (2014) on the MPW Concept Development Site, all of which correspond with threatened ecological communities (TECs) listed under the *Threatened Species Conservation Act 1995* (TSC Act) (Table 7-17).

Table 7-17: Vegetation communities identified on the MPW Concept Development Site by PB (2014)

Vegetation community	Plant Community Type (PCT)	Corresponding Threatened Ecological Community
Castlereagh Scribbly Gum Woodland	Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin	Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion
Castlereagh Swamp Woodland	Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin	Castlereagh Swamp Woodland
Alluvial Woodland	Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions.
Riparian Woodland	Sydney Blue Gum X Bangalay – Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin	

The remainder of the MPW Concept Development Site outside of the mapped PCTs has low vegetation cover consisting chiefly of a sparse canopy composed of a mixture of planted and remnant indigenous and introduced trees within areas of cleared and disturbed land.

Two threatened flora species were recorded within the MPW Concept Development Site: *Persoonia nutans* (listed as Endangered under the EPBC Act and TSC Act) and *Grevillea parviflora* subsp. *parviflora* (listed as Vulnerable under the EPBC Act and TSC Act). Populations of these species were recorded in patches of Castlereagh Scribbly Gum Woodland adjacent to Moorebank Avenue in the east of the MPW Concept Development Site. Six additional threatened flora species were considered to have a moderate likelihood of occurrence on the MPW Concept Development Site, based on the presence of suitable habitat and historical records of these species from the locality.

A total of 92 fauna species were recorded on the MPW Concept Development Site, comprising 87 native species and five introduced species. One threatened fauna species, Grey-headed Flying-fox (*Pteropus poliocephalus*) (listed as Vulnerable under the EPBC Act and TSC Act) was recorded flying over the MPW Concept Development Site. Ultrasonic bat call surveys on site detected probable recordings of calls of the threatened microbat species Southern Myotis (*Myotis macropus*), Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*) and Greater Broad-nosed Bat (*Scoteanax rueppellii*), all listed as Vulnerable under the TSC Act. The MPW Concept Development Site was also considered likely to provide habitat for 23 additional threatened fauna species of animals not detected during surveys; most would only be likely to utilise the intact riparian habitats adjoining the Georges River, which forms an important part of the local and regional corridor network (PB 2014).

Four fauna habitat types were identified on the MPW Concept Development Site based on field verification: riparian vegetation along the Georges River; fragmented patches of shrubby woodland; highly disturbed areas containing large remnant trees; and artificial wetlands.

No aquatic surveys were undertaken for the assessment of the MPW Concept EIS; the results of the aquatic ecology assessment prepared for the neighbouring SIMTA Project (Hyder Consulting 2014) and another study previously conducted for the Georges River catchment (Gehrke *et al.* 2014) were reviewed. No species currently listed under the NSW *Fisheries Management Act 1994* (FM Act) were recorded in the Georges River catchment.

PB (2014) state that the Early Works are unlikely to result in the clearing of any mapped PCTs, including any threatened ecological communities or species. They are likely to result in the removal of scattered native and introduced trees and shrubs within the highly modified, park-like grounds in the east of the MPW Concept Development Site, associated with the built-up areas of the MPW Concept Development Site.

Impacts of the full build are also considered and assessed in the Ecological Impact Assessment (PB 2014) for the MPW Concept EIS. Impacts considered included:

- Vegetation clearing and habitat loss
- Loss of roosting and breeding habitat in hollow bearing trees
- Direct mortality
- Loss of foraging resources
- Fragmentation and loss of connectivity
- Increased edge effects
- Noise impacts on fauna
- Light impacts to fauna
- Dust pollution
- Introduction and spread of weeds, pests and pathogens
- Fire regimes
- Increased edge effects
- Disturbance of aquatic habitat
- Disturbance of groundwater dependent ecosystems.

Impact significance assessments for threatened species populations and threatened ecological communities were prepared, considering the potential impacts of the MPW Concept and proposed mitigation measures. Based on these assessments, no threatened species, population or threatened ecological community listed under either the EPBC Act or the TSC Act was considered likely to be significantly impacted.

A variety of mitigation measures were proposed to reduce and offset impacts. This included retention and enhancement of substantial areas of vegetation along the

Georges River riparian corridor (including a permanent conservation area within the MPW site), and implementation of an offset strategy to mitigate unavoidable direct impacts.

The RtS for the MPW Project (the MPW Concept RtS) included assessment of the impacts of project amendments on biodiversity values. These were largely focused on changes to the rail alignment and biodiversity offset areas as a result of selection of a preferred rail access option, and revised calculation of impacts and offsets for Riparian Forest (adjacent to the Georges River).

The revised biodiversity assessment considered changes in biodiversity assessment and offsetting requirements under the FBA. The FBA Assessment in Appendix C of the MPW Concept RtS (PB 2015) addresses impacts to native vegetation communities and threatened species.

The Supplementary Response to Submissions (MPW Concept SRtS) included a revised Biodiversity Offset Strategy to incorporate changes made in response to submissions received during the EIS exhibition phase, as well as the results of additional surveys conducted within the proposed offset lands.

Although the technical papers prepared for the MPW Concept EIS addressed the biodiversity values and potential impacts across the entire MPW Concept Development Site, only the Early Works component is approved under the MPW Concept Approval.

The assessment for the Amended Proposal needs to consider all impacts to threatened ecological communities and threatened species within the Amended Development Site, given that the MPW Concept Approval did not approve any clearing of native vegetation other than that required for the Early Works. Changes to the construction footprint of the MPW Project as a result of design development for the Amended Proposal requires a revised calculation of biodiversity impacts under the FBA.

Conditions of Approval

The Conditions of Approval for the MPW Concept Approval relevant to the Amended Proposal because they specify requirements for future development applications are shown in Table 7-18. These conditions of approval were taken into account while developing the methodology for the Updated BAR for the Amended Proposal.

Table 7-18: MPW Concept Conditions of Approval – requirements for future development applications

Conditions of Approval	Where addressed in the EIS/RtS
Schedule 4 - Conditions to be met in future development applications	
E15. All future Development Applications shall consider measures to improve the condition of the riparian corridor along the western bank of the Georges River (known as the 'hourglass land').	The 'hourglass land' will form part of the biodiversity offsets for the Amended Proposal. Measures to improve the condition of the land will be detailed in an offset management plan in the whole-of-precinct Biodiversity Offset Strategy, which is being developed concurrently with this approval.
E16. All future Development Applications shall consider the following riparian corridor widths (measured from the top of bank):	The width of the riparian corridor is discussed in Section 6 and 7.1.6 of this RtS.

Conditions of Approval		Where addressed in the EIS/RtS
	<p>a) a minimum of 50 m wide associated with the rail corridor; and</p> <p>b) a minimum of 40 m wide along the terminal site.</p>	
E22.	<p>All future Development Application which includes construction in the vicinity of the Amiens Wetland shall include advice from an independent wetland expert to determine whether it is artificial or a natural lake basin, its significance, and any recommendations on mitigation measures (if appropriate).</p>	<p>An assessment of Amiens Wetland has been conducted by an independent wetland expert (Appendix Q). The assessment is discussed in Section 11.3.5 of the Proposal EIS and Appendix G of this RtS.</p>

Other MPW Concept Conditions of Approval that relate to biodiversity are D17 (requirement for a Biodiversity Offset Package), D18 (restrictions on clearing and requirements for the management of hollow bearing trees) and D19 (requirement for a Threatened Dragonfly Species Survey Plan).

Methodology

For the purpose of this assessment, existing environmental conditions are assumed to be those that exist upon completion of the Early Works (assessed in the MPW Concept EIS). The current assessment relies on ecological data collected and presented in the biodiversity assessments to date (PB 2014 and PB 2015) and builds on these assessments, providing a revised calculation of the biodiversity impacts for the Amended Development Site. Impact calculations have been prepared in accordance with the FBA.

The current assessment was based on the following information:

- Database interrogation: databases searched were the NSW Threatened Species Profile Database (TSPD), the Vegetation Information System (VIS) classification database, the overcleared landscapes database (Mitchell landscapes) and the Directory of Important Wetlands in Australia (DIWA)
- Literature review of regional and site-specific studies in the locality of the Amended Development Site
- Review of vegetation mapping, including regional studies and the mapping of the Amended Development Site prepared by PB (2014) based on detailed site surveys
- Field assessment between 2010 and 2014 as detailed in PB (2014). Field assessment comprised: vegetation plots sampled in accordance with the Biobanking Assessment methodology (BBAM) (refer to Figure 7-1); targeted searches for threatened flora species; and targeted threatened fauna species using a range of survey techniques, including habitat searches, diurnal and nocturnal call-playback, mammal trapping and hair tubes, bat (harp) trapping and ultrasonic bat call detection. A tree hollow survey was also conducted in September 2011
- Inspection of areas of native vegetation on the Amended Development Site by Arcadis ecologists on 3 March 2016, with particular focus on areas of additional impact within the Georges River riparian zone
- Additional field assessment was undertaken on 9 and 14 February 2017 and 14 March 2017 (refer to Figure 7-1). This included targeted searches for threatened plant species within areas of potential suitable habitat, comprising areas mapped as Castlereagh Scribbly Gum Woodland and Castlereagh Swamp Woodland.

Species targeted were: *Hibbertia puberula* subsp. *puberula*, *Hibbertia fumana*, *Acacia bynoeana*, *Persoonia nutans* and *Grevillea parviflora* subsp. *parviflora*. Survey methodology consisted of walking transects spaced 5 to 10 metres apart, with all observations recorded, counts of individual plants or stems taken, and GPS point locations captured. Surveys of *Grevillea parviflora* subsp. *parviflora* counted the number of stems, not individuals. Mapped vegetation patches within the Amended Development Site were also inspected to confirm their boundaries and condition

- Expert assessment of Amiens wetland.

A calculation using the FBA calculator was prepared by Jane Rodd (Assessor No. 0023) for the Amended Development Site, adopting the updated impact areas and vegetation classifications, in order to obtain credit values for the Amended Proposal. This calculation is being used, along with other previous biodiversity assessments, to prepare a Biodiversity Offset Package for the Amended Proposal as required under Condition D17 of the MPW Concept Approval.

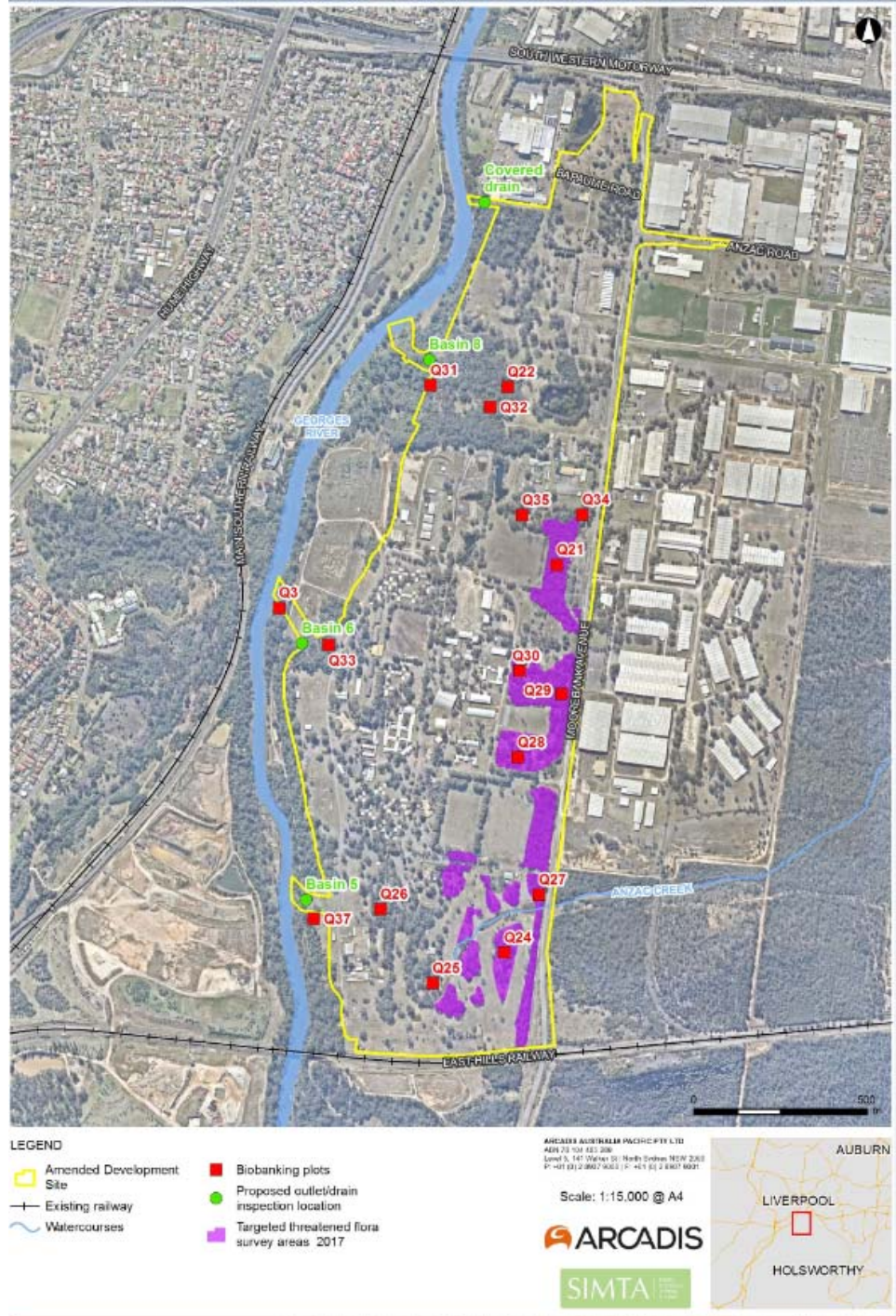


Figure 7-1 Vegetation sampling of the Amended Development Site

Existing environment

Landscape value

The FBA requires the assessment of landscape features to describe the biodiversity values and assess impacts. Landscape features relevant to the FBA calculations are shown on Figure 7-2 and are summarised in Table 7-19.

The Amended Proposal is a site-based development; as such, the landscape value has been assessed in accordance with the methodology in Appendix 4 of the FBA (OEH 2014). Two assessment circles were mapped by PB (2015) to enable assessment of landscape values, including the percent current extent of native vegetation cover within and adjacent to the MPW Concept Development Site; these circles were both centred on the MPW Concept Development Site. In accordance with the allowable combinations of inner and outer assessment circles in Table 8 of the FBA, an inner circle of 100 ha and an outer circle of 1000 ha were used.

Appendix 4 of the FBA requires the 100 hectare circle to be centred on the area of native vegetation that is most impacted by the SSD. The 100 hectare circle was therefore moved to the largest area of impact mapped PCTs in the north of the Amended Development Site. The assessment circles are shown on Figure 7-2.

Table 7-19: Landscape value

Landscape feature	Amended Development Site
Interim Biogeographic Regionalisation for Australia (IBRA7) bioregions and subregions	The Amended Development Site is located within the Sydney Basin Bioregion and the Cumberland Subregion classified under IBRA.
Major Catchment Area	The Amended Development Site is located within the Sydney Metropolitan Major Catchment Area (MCA).
Mitchell landscapes	The Amended Development Site is located within the Georges River Alluvial Plain Mitchell landscape. This Mitchell Landscape is not currently listed in the credit calculator, so the Cumberland Plain Mitchell Landscape was used following advice from OEH.
Rivers, streams and estuaries	The Georges River flows north along the western edge of the Amended Development Site, where it is considered to be a 6th order stream. Anzac Creek originates from the Amended Development Site and extends to the north-east; within the MPW Site, it is a 1st order stream. In addition to these named watercourses, there is a formalised drainage channel located in the north of the Amended Development Site. The large open channel is concrete lined and conveys stormwater in a north-westerly direction across the Amended Development Site, discharging into the Georges River. Other hydrological features are restricted to constructed artificial wetlands and detention basins in the Amended Development Site.
Wetlands	Under the FBA, an important wetland is defined as one that is listed in the Directory of Important Wetlands (DIWA), or mapped under

Landscape feature	Amended Development Site
	<p>State Environment Planning Policy 14 (SEPP 14 Coastal wetlands). The Amended Development Site does not contain any wetlands which fall into these categories.</p>
<p>Native vegetation cover in landscape</p>	<p>The native vegetation cover in the landscape was determined with reference to the regional vegetation mapping by NPWS (2002)/Tozer et al. (2003), updated with ground-truthed vegetation mapping (Figure 7-2).</p> <p>Native vegetation cover percentages were calculated as a proportion of all land within each assessment circle that contains native vegetation. The future native vegetation cover was determined by subtracting the area of native vegetation to be cleared for the Amended Proposal from the current summed native vegetation cover in each circle.</p> <p>The current percent native vegetation cover in the inner assessment circle is 25-30%, and in the outer assessment circle is also 26-30%. The respective scores for native vegetation cover are 4.5 and 7.5.</p> <p>The future percent native vegetation cover in the inner assessment circle is 11-15%, and in the outer assessment circle is 21-25%. The respective scores for native vegetation cover are 2.25 and 6.25.</p>
<p>Connectivity value</p>	<p>The Amended Proposal includes construction of three stormwater basin outlets within the Georges River riparian zone as well as a covered drain in the north of the riparian zone, within the Endeavour Energy easement. While it was identified in the MPW Concept EIS that stormwater overflows would be required from the site to the Georges River, assessment of these outlets was not included in PB (2015) as the exact location of the channels had not been determined. Impacts on the connectivity value of the riparian zone therefore require consideration for the Amended Proposal.</p> <p>The Georges River is a 6th order stream and as such the riparian buffer 50 metres either side is considered to be a state significant biodiversity link in accordance with Table 10 of the FBA. The corresponding connectivity value for the additional impact areas is 12. No further assessment of connectivity value is required for the assessment.</p>
<p>Patch size</p>	<p>The size of the largest patch of native vegetation occurring in and adjacent to the Amended Development Site is the riparian corridor adjoining the Georges River, a portion of which is within the conservation area. This vegetation connects to large areas of bushland in the Holsworthy Military Area to the south, which comprises approximately 18,000 ha of continuous native vegetation. As such, the vegetation in the Amended Development Site has been assigned the maximum patch size of 1001 ha. In accordance with the criteria in Table 15 of Appendix 4 of the FBA, the patch size class is considered to be <i>extra large</i> with a corresponding patch size score of 12 – which is the highest possible score for this parameter.</p>
<p>Landscape value score</p>	<p>The landscape value score for the areas of the Amended Development Site is 27.5. This score comprises:</p>

Landscape feature	Amended Development Site
	Native vegetation cover – 3.5 (based on the deduction of the future percent native vegetation cover scores from the current percent native vegetation cover scores) Connectivity value – 12 Patch size - 12

Moorebank Precinct West

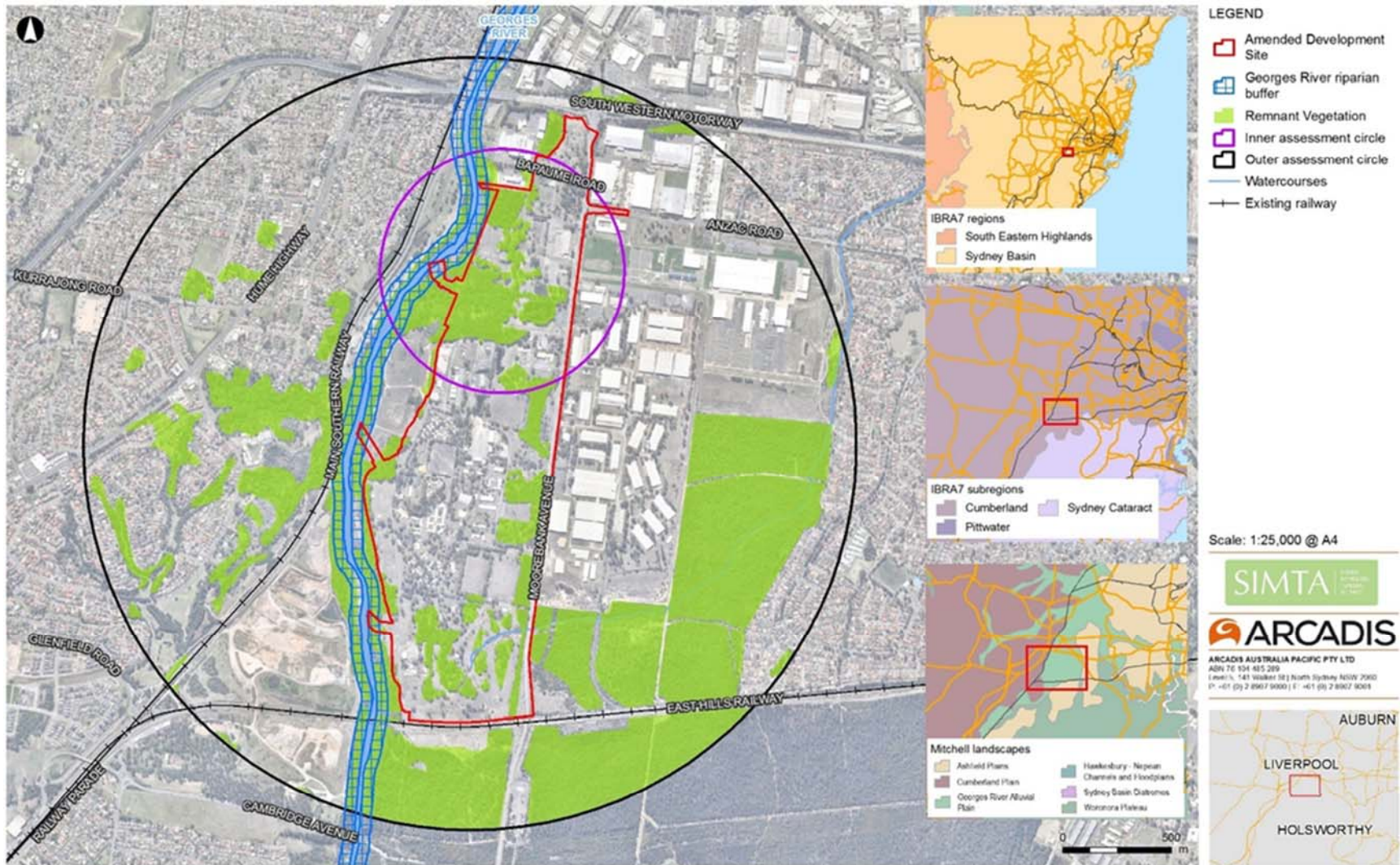


Figure 7-2 Landscape assessment

Native vegetation

The native vegetation (mapped PCTs) within the Amended Development Site consists predominantly of remnant forest and woodland vegetation that has been modified by previous infrastructure development and invasion of exotic species.

Some areas include moderate to good condition remnant vegetation that is connected to larger areas of vegetation. The native vegetation within the Amended Development Site provides habitat for a large variety of flora and fauna species.

Additional areas of impact

The MPW Concept Approval contemplated four OSDs and associated outlets to the Georges River, as overland flow. Additional areas of impact are now associated with three proposed OSD channel outlets (reduced from four overland flow outlets following optimisation of the drainage design) and the proposed covered drain in the Endeavour Energy easement.

In addition to the site assessment and vegetation mapping undertaken by PB (2014a, 2015b and c), vegetation observations were made on the Amended Development Site by Arcadis ecologists Jane Rodd and Laura Hoffman in March 2016, focusing on additional areas of impact outside the area approved for the MPW Concept Approval, including the three OSD outlets. These additional areas are discussed below. The vegetation in the Endeavour Energy easement at the northern extent of the riparian corridor on the Amended Development Site was inspected on 14 March 2017 (refer to Figure 7-1).

Basin 5 outlet

The Basin 5 outlet (refer to Figure 7-1) is affected by a dense cover of *Lantana camara*. The location of the proposed channel is on the site of an existing major channel draining the existing catchments in the north of the Amended Development Site, where the existing drainage infrastructure has collapsed leaving uncontrolled flows and associated erosion.

The vegetation in the proposed area of impact is highly modified; scattered *Eucalyptus tereticornis* (Forest Red Gum) were observed on the slope, with a dense midlayer of *Lantana camara* and *Ligustrum* spp. (Privets).

Basin 6 outlet

The Basin 6 outlet intersects the former plant and equipment operation training area, which is currently cleared of native vegetation and dominated by exotic grassland. There is a band of native vegetation mapped in the south-east of the outlet area which is mainly comprised of *Acacia binervia* (Coast Myall) with an exotic-dominated understorey including *Lantana camara*, *Jacaranda mimosifolia* (Jacaranda) and *Olea europaea* subsp. *cuspidata* (African Olive).

The Basin 6 outlet also intersects riparian vegetation adjoining the Georges River. In this location, the vegetation is characterised by a sparse canopy dominated by *Eucalyptus botryoides* x *saligna* and *Angophora subvelutina* (Broad-leaved Apple) and a midstorey dominated by native shrubs including *Acacia binervia*, *Acacia decurrens* (Black Wattle), *Glochidion ferdinandi* (Cheese Tree) and *Kunzea ambigua* (Tick Bush). The ground layer vegetation is sparse and dominated by the native grass *Microlaena stipoides* (Weeping Grass). There is variable abundance and cover of exotic species in this area, with higher exotic occurrence closer to the river, where *Lantana camara*, *Olea europaea* subsp. *cuspidata* and *Ligustrum* spp. frequently occur.

Basin 8 outlet

The Basin 8 outlet (refer to Figure 7-1) crosses areas of cleared grassland in the east, with scattered trees and a wide, gravel-covered track. In the west of this area there is degraded riparian forest, with a canopy of *Eucalyptus botryoides* x *saligna* and a

dense understorey of weeds including *Lantana camara*, *Arundo donax* (Giant Reed), *Ligustrum* spp., *Cardiospermum grandiflorum* (Balloon Vine), *Bidens pilosa* (Cobblers Pegs) and *Eragrostis curvula* (African Lovegrass). There is a low occurrence of native understorey species in this area, with some *Pteridium esculentum* (Bracken), *Acacia binervia* and *Melicytus dentatus* (Tree Violet) observed in the northern part of the basin outlet area.

Covered drain in Endeavour Energy easement

The Endeavour Energy easement is largely cleared of native vegetation and supports a regularly mown/slashed grassland. At the western end of the easement is a steep, eroded slope supporting scattered native trees and shrubs. It is adjoined to the south by native vegetation in moderate condition with a canopy of *Eucalyptus tereticornis* (Forest Red Gum) and a dense shrub layer dominated by *Acacia parramattensis* (Sydney Green Wattle) and a sparse grassy groundlayer. There are numerous stands of *Lantana camara* interspersed in the native vegetation.

Plant Community Types

Four Plant Community Types (PCTs) were identified by PB (2014) following review of existing regional mapping (NPWS 2002/Tozer 2003), soil and geology attributes, landscape position and structural and floristic attributes recorded during site assessments.

PB (2014) mapped Sydney Blue Gum X Bangalay – Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin along the Georges River riparian corridor.

Sydney Metro Catchment Management Authority (CMA) vegetation mapping of the Amended Development Site and surrounds classifies this section of the Georges River riparian corridor as Hinterland Flats Eucalypt Forest, which is referenced as being a component of Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (DECCW 2009). This community is considered to be more consistent with regional vegetation mapping and classifications and therefore areas within the Amended Development Site previously mapped as Sydney Blue Gum X Bangalay – Lilly Pilly moist forest in gullies and on sheltered slopes, southern Sydney Basin have been reclassified as Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin.

Since the preparation of the EIS, additional site investigations and further desktop review of aerial photography has been undertaken to validate vegetation mapping across the Amended Development Site, and the broader MPW site.

As a result of these additional investigations, the vegetation mapping within the Amended Development Site has been revised to reflect the updated understanding of PCTs present. As a result of this updated information, the amount of vegetation clearance within the Amended Development Site has changed. Appendix G of this RtS includes a series of figures providing a comparison of the previously mapped vegetation on the Amended Development Site with the revised vegetation mapping resulting from the additional investigations that have been undertaken since the preparation of the EIS. The revised PCTs identified and their extent within the Amended Development Site are presented in Table 7-20 and shown on Figure 7-3.

Table 7-20: Revised PCTs in Amended Development Site

Vegetation Class (Keith 2004)	PCT ID	Plant Community Type	Estimated clearance of PCT since European settlement	Area (ha) within Amended Development Site
Sydney Sand Flats Dry	ME003	Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland	50%	13.54

Moorebank Precinct West

Vegetation Class (Keith 2004)	PCT ID	Plant Community Type	Estimated clearance of PCT since European settlement	Area (ha) within Amended Development Site
Sclerophyll Forests		of the Cumberland Plain, Sydney Basin		
Sydney Sand Flats Dry Sclerophyll Forests	ME005	Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin	45%	0.68
Coastal Floodplain Wetlands	ME018	Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin	95%	28.47

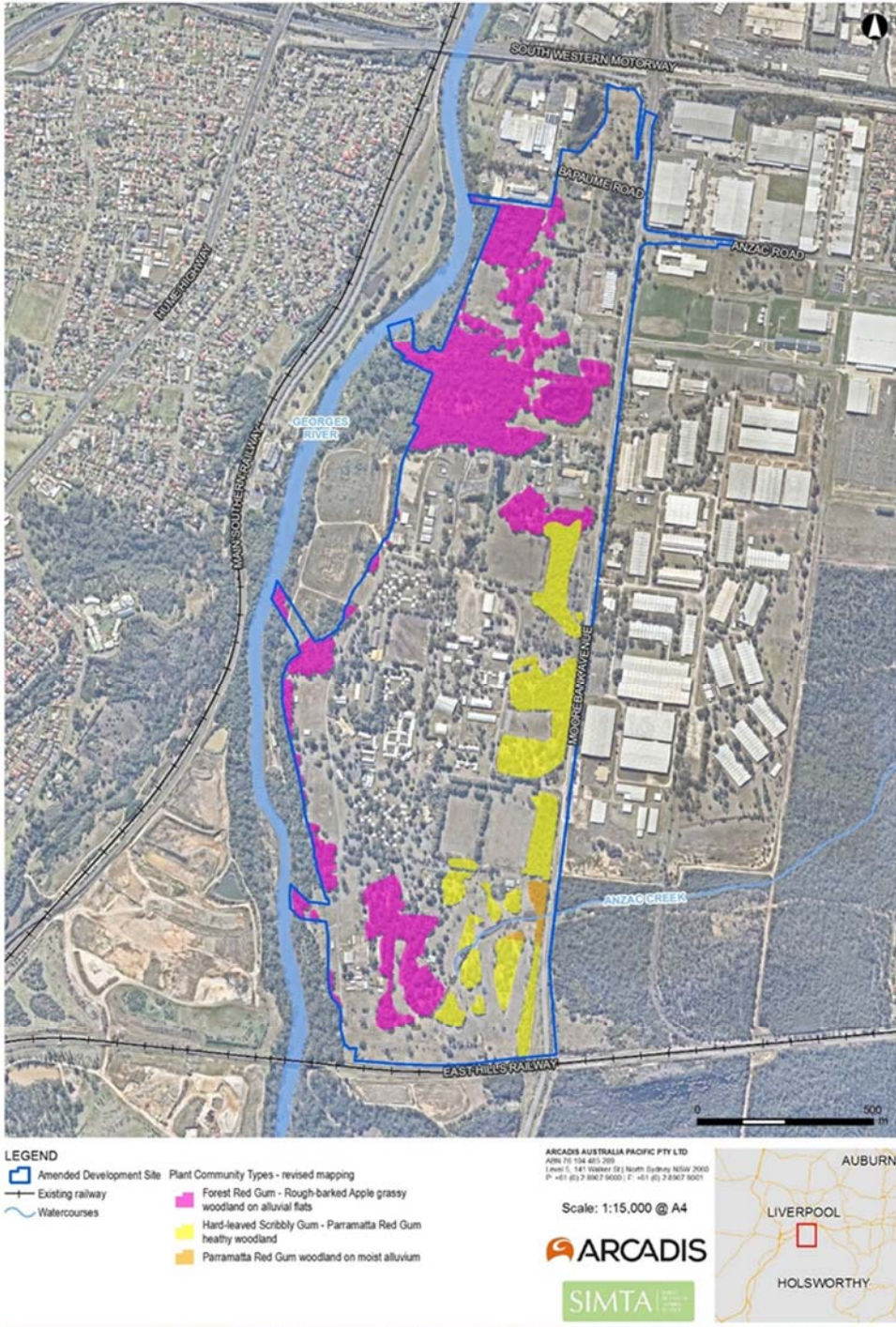


Figure 7-3 Mapping of revised PCTs in Amended Development Site

Threatened ecological communities

The three PCTs identified in the Amended Development Site are included within the definitions of threatened ecological communities listed under the TSC Act and/or EPBC Act, as per Table 7-21.

Table 7-21: Threatened ecological communities on the Amended Development Site

Plant Community Type	Equivalent TEC	TSC Act Status	EPBC Act Status
Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin	Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion	Vulnerable	Endangered
Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin	Castlereagh Swamp Woodland	Endangered	Not listed
Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions	Endangered	Not listed

Vegetation condition

The Amended Development Site was found to contain three distinct vegetation types in the moderate to good condition category. The vegetation zones within the Amended Development Site are shown in Figure 7-4.

Two condition classes have been delineated within ME018 Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin: Moderate/Good, and Moderate/Good – Poor. This is to account for the areas within this vegetation type with a reduced or absent understorey, dominated by exotic grasses or herbs, and significant amounts of invasive exotic species such as *Lantana camara*, *Ligustrum* spp. and *Cardiospermum grandiflorum* in the midlayer. The primary area of this vegetation zone is located around the existing drain in the north-west of the Amended Development Site.

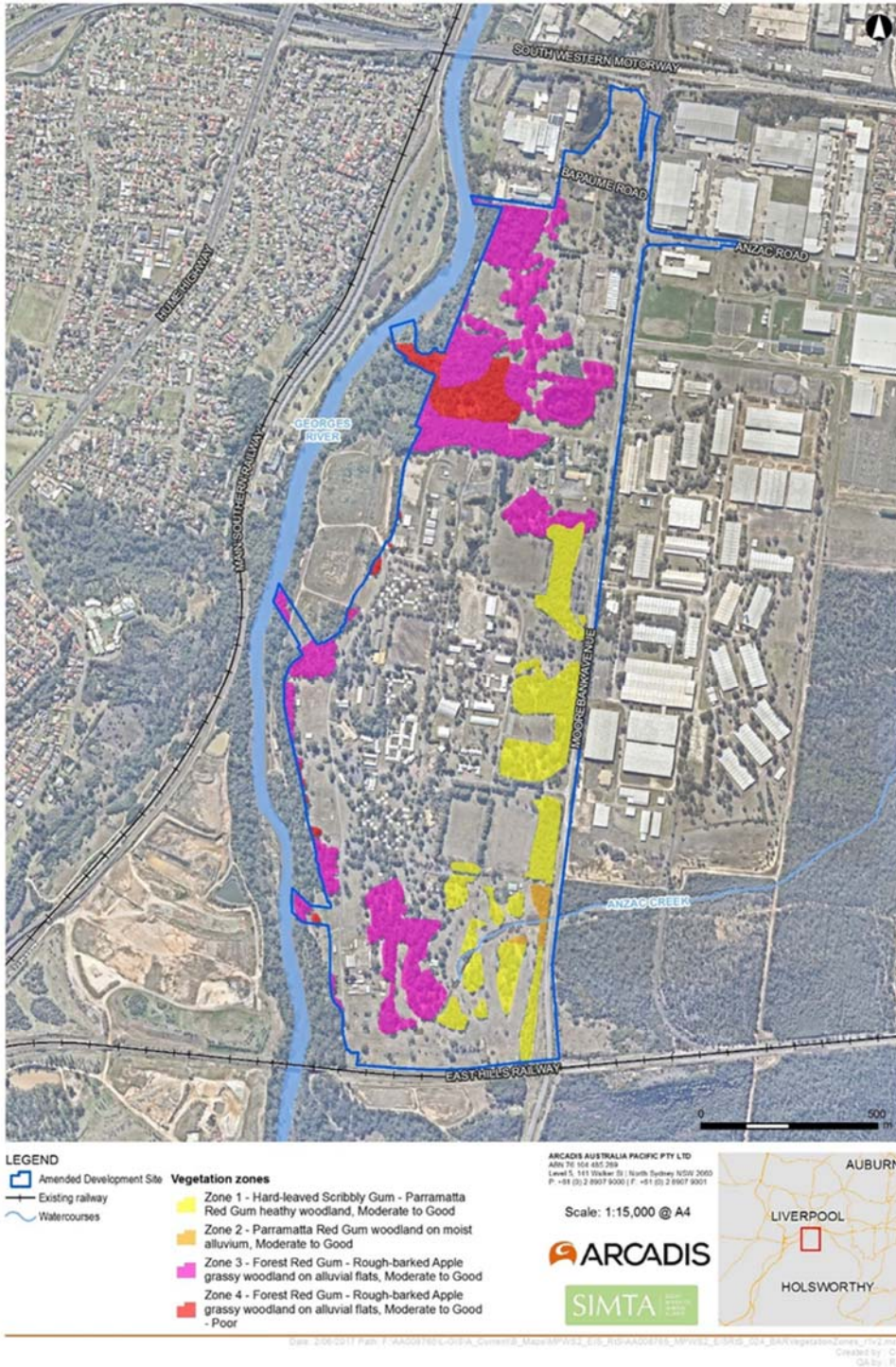


Figure 7-4 Vegetation zones and condition on the Amended Development Site

The site value score for each vegetation zone identified in the Amended Development Site was determined through assessment of site attribute data collected in vegetation plots. The site attribute data entered into the credit calculator for the current assessment is that presented in PB (2015) (see Section 6.5 of Appendix G for further detail).

The site value scores for each vegetation zone are provided in Table 7-22.

Table 7-22: Area and site value score for each vegetation zone

Vegetation Zone	Area mapped in Amended Development Site	Site value score
Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin: Moderate/Good	13.54 ha	54.17
Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin: Moderate/Good	0.68 ha	33.33
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin: Moderate/Good	24.53 ha	56.25
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin: Moderate/Good - Poor	3.94	29.69

Noxious weeds

Review of the flora species list for the MPW site against the current list of declared weeds for Liverpool City Council (DPI 2016) identified 14 noxious weeds listed under the *Noxious Weeds Act 1993*, of which nine are also listed as Weeds of National Significance (Australian Weeds Committee 2010).

Groundwater dependent ecosystems

It is probable, due to local hydrogeology, that groundwater across the Amended Development Site and the wider region is interconnected. As such, if stygofauna (aquatic animals that live in groundwater) are present they are unlikely to be isolated to the vicinity of the Amended Development Site.

A search of the Australian Government's Atlas of Groundwater Dependent Ecosystems was undertaken on 7 April 2016. Several GDEs with potential reliance on subsurface groundwater were identified in the locality including in the Amended Development Site (Bureau of Meteorology 2016). Riparian woodland vegetation adjoining the Georges River was identified as having a high potential for groundwater interaction. Some of the fragmented patches of vegetation along the eastern boundary of the Amended Development Site were identified as having a moderate potential for groundwater interaction. No data on subterranean groundwater-dependent ecosystems (GDEs) is available for the locality. The riparian vegetation on and adjoining the Amended Development Site is potentially a groundwater dependent ecosystem.

Threatened species

Ecosystem credit species

The FBA Assessment for the MPW Concept EIS found 21 ecosystem credit species predicted to occur within the Amended Development Site. Although none of the species were recorded in the Amended Development Site, 13 were considered to have a moderate to high likelihood of occurrence there. The species are listed in Table 3.16 of Parsons Brinckerhoff (2015).

The following species were derived from the PCTs identified on the Amended Development Site as predicted ecosystem credit species for the Amended Proposal. This total includes all species identified in the MPW Concept Approval FBA calculation, plus three additional species: Spotted Harrier (*Circus assimilis*), Square-

tailed Kite (*Lophoictinia isura*) and Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*).

Each species has been assessed for potential presence in the Amended Development Site using information obtained from the Threatened Species Profiles Database (TSPD). The assessment found that of the 24 species identified in the calculator, one threatened fauna species (Little Eagle) is present, two threatened fauna species have a high likelihood of occurrence (Eastern Free-tail Bat and Little Lorikeet) and 13 have a moderate likelihood of occurrence within the Amended Development Site.

Three additional ecosystem credit species not identified by the credit calculator were either recorded or tentatively identified in or adjacent to the Amended Development Site:

- Grey-headed Flying-fox (*Pteropus poliocephalus*) was recorded flying over the Amended Development Site.
- Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*), was recorded in the Georges River riparian corridor to the south-west of the Amended Development Site
- Possible recordings of Southern Myotis (*Myotis macropus*) were made in the Georges River riparian corridor to the south-west of the Amended Development Site.

Species credit species

Flora

A total of 13 species were identified in the credit calculator as predicted flora species credit species for the Amended Development Site. This total includes all species identified in the MPW Concept Approval FBA calculation, with the exception of *Pultenaea parviflora*. One additional species, *Persoonia hirsuta* (Hairy Geebung), was derived as a predicted species in the current calculation.

Two of the threatened flora species credit species were recorded on the MPW Concept Development Site by PB (2015): *Persoonia nutans* (Nodding Geebung) and *Grevillea parviflora* subsp. *parviflora* (Small-flower Grevillea). During additional targeted surveys conducted by Arcadis between February and March 2017, 333 stems of *Grevillea parviflora* and 16 *Persoonia nutans* were recorded in approximately the same locations as presented in PB (2015).

One additional threatened flora species not previously recorded on the Amended Development Site was identified in the Arcadis 2017 survey: *Hibbertia puberula* subsp. *puberula*. This species was recorded in two of the larger patches of Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland in the central eastern parts of the Amended Development Site, with a total of 83 plants recorded.

Hibbertia puberula subsp. *puberula* is a subspecies of *Hibbertia puberula*, listed as endangered under the TSC Act on 12 September 2003. At the time of listing, *Hibbertia puberula* had not been collected for over 40 years. There are no records of *Hibbertia puberula* subsp. *puberula* in the NSW Wildlife Atlas between 1954 and 2012, when it was recorded near Heathcote Road at Lucas Heights and Menai.

Toelken and Miller (2012) reported that *Hibbertia puberula* subsp. *puberula* was more widespread than previously thought, based on over 50 specimens collected from varying locations including Wollemi National Park, Voyager Point, Simmos Beach Reserve at Macquarie Fields, Kentlyn, Warrimoo, Royal National Park and areas south-west of Nowra, near Morton National Park. The species has been recorded from a wide range of habitats and Toelken and Miller (2012) state that it seems to be adequately conserved.

Moorebank Precinct West

The locations of the threatened flora species recorded in the Amended Development Site are shown on Figure 7-5.

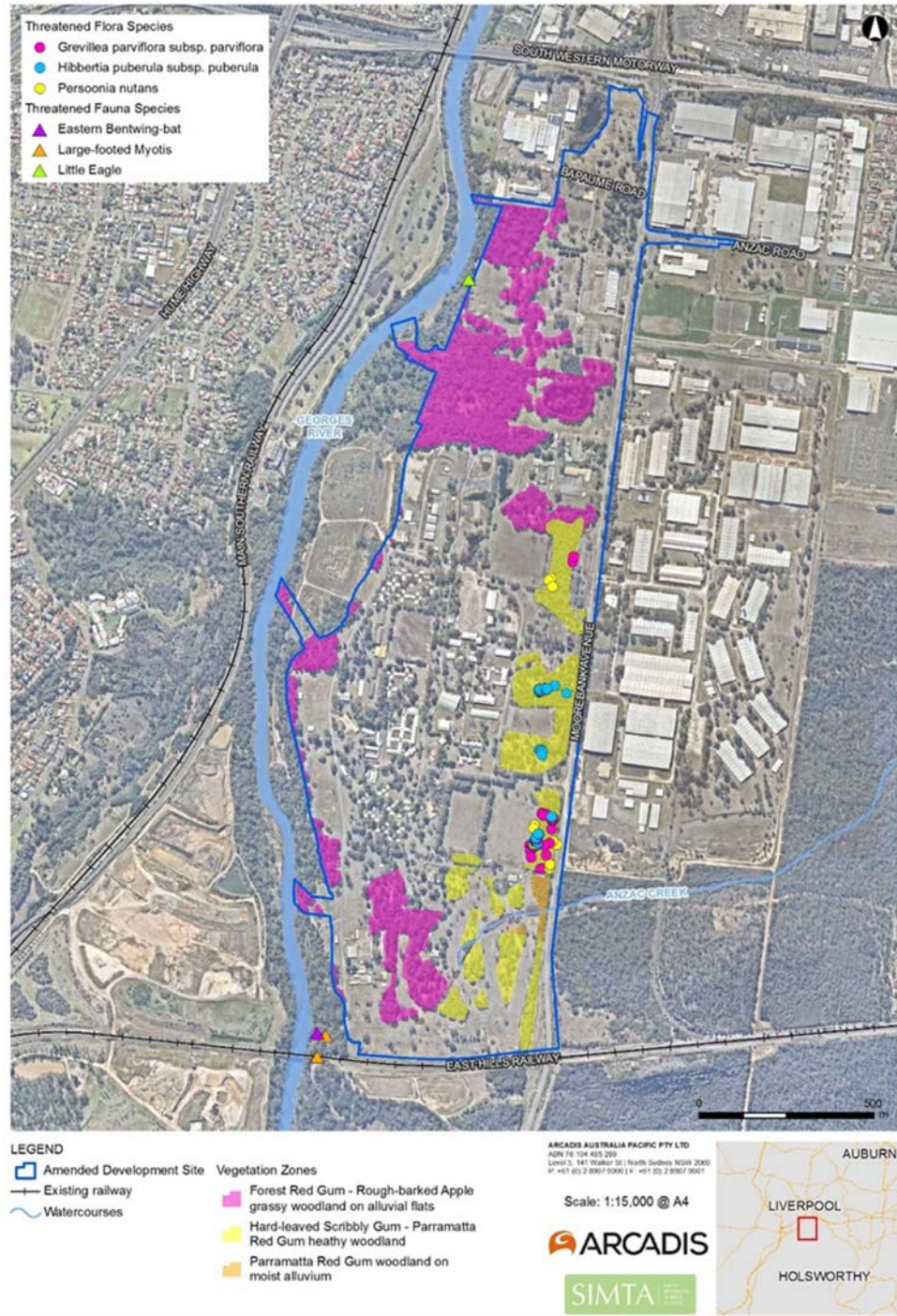


Figure 7-5 Threatened species recorded in the Amended Development Site

Fauna

A total of eight species were identified in the credit calculator as predicted species credit species for the Amended Development Site. This total includes all species identified in the MPW Concept Approval FBA calculation, with the exception of Rosenberg's Goanna (*Varanus rosenbergi*). One additional species, Black Bittern (*Ixobrychus flavicollis*), was derived as a predicted species in the current calculation. Of the eight species, none are considered likely to occur in the Amended Development Site.

Aquatic fauna

PB (2014b) assessed the aquatic fauna habitats and potential presence of threatened aquatic species through habitat assessment and reference to aquatic surveys in the Georges River and Anzac Creek.

The Georges River is a major permanently flowing waterway and is classified as Class 1 (major fish habitat) in accordance with the criteria of Fairfull and Witheridge (2003). No species currently listed under the FM Act were recorded in the catchment and none were considered likely to occur in the adjacent stretch of the Georges River by PB (2014b). Due to the degraded condition of the river, the native species that persist here are likely to consist of disturbance tolerant species which are less sensitive to alterations in environmental conditions than species restricted to relatively unmodified environments (PB 2014b).

There are two dragonfly species currently listed under the FM Act occurring in the Sydney basin:

- Adams Emerald Dragonfly (*Archaeophya adamsi*) - Endangered
- Sydney Hawk Dragonfly (*Austrocordulia leonardi*) – Endangered.

Neither species is listed under the TSC Act or EPBC Act. The closest historical records of the Adams Emerald Dragonfly and the Sydney Hawk Dragonfly are respectively 35 km and 12.5 km from the Amended Development Site.

A Threatened Dragonfly Species Survey Plan (Arcadis 2016) was prepared in consultation with DPI Fisheries as part of the MPW Concept Approval. The objective of the plan was to determine the presence or absence of threatened dragonfly species listed under the FM Act on the Georges River, adjacent to the Amended Development Site.

Field assessment of potential dragonfly habitat was undertaken in September 2016 as part of the plan. The character of the Georges River within the survey area was found to be markedly different from known habitat for the targeted threatened dragonfly species. No habitats for threatened dragonfly species were detected in the survey area after an extensive ecological assessment, and it is considered highly unlikely that they occur in the surveyed area. No impact to threatened dragonflies is anticipated as a consequence of the Amended Proposal.

Amiens wetland

Amiens wetland is a small freshwater wetland on the Georges River floodplain adjacent to Amiens Road in the north of the MPW site. Dr John Porter, wetland specialist, prepared an assessment to determine whether the Amiens wetland is artificial or a natural lake basin, its significance, and recommended mitigation measures (Porter 2016). The assessment was provided in Appendix Q of the EIS and remains current. The assessment was carried out using a combination of field inspection and desktop investigation.

Based on evidence from published and unpublished reports, literature, historical maps and documents, Porter (2016) concluded that the Amiens wetland is a natural

floodplain wetland of the Georges River, albeit strongly impacted by weeds, vertebrate pests and pollution. Despite high levels of disturbance, the wetland was identified as one of the last remaining examples of natural freshwater floodplain wetlands in the locality and as such has significance for biodiversity and habitat conservation.

The following recommendations/mitigation measures were suggested by Porter (2016):

- Retain and maximise conservation value by removing and controlling weeds and pests
- Install sediment traps or similar to limit siltation and particulate pollutants that may occur as a result of the proposal
- Maintain, or improve, existing water flows to the wetland
- Maintain or enhance hydrological linkages with the Georges River, in particular to allow fish and other fauna to enter and exit the wetland
- Continue to restrict recreational access to minimise disturbance.

These mitigation measures were incorporated into the mitigation measures detailed in Section 22 of the EIS and remain unchanged in Section 8 (Revised compilation of mitigation measures) of this RtS.

Potential impacts

Likely impacts are those impacts that may arise as a result of unmitigated activities associated with the construction and / or operation of the Amended Proposal and are considered in the sections below. The impacts considered are consistent with those specified in point 12a) of the SEARs. For each type of impact the difference in impacts between the proposal considered in the EIS and the Amended Proposal is also considered.

Direct impacts

Endangered (and vulnerable) ecological communities

The Amended Proposal will require clearing of all vegetation within the Amended Development Site, including threatened ecological communities. The threatened ecological communities to be directly impacted are listed in Table 7-23.

Table 7-23: Areas of direct impact to threatened ecological communities – EIS proposal v Amended Proposal

Plant Community Type	Equivalent TEC	Conservation status	EIS Proposal area of impact	Amended Proposal area of impact
Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin	Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion	Vulnerable (TSC Act) Endangered (EPBC Act)	15.51 ha	13.54 ha
Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin	Castlereagh Swamp Woodland	Endangered (TSC Act)	0.92 ha	0.68 ha

Plant Community Type	Equivalent TEC	Conservation status	EIS Proposal area of impact	Amended Proposal area of impact
Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions	Endangered (TSC Act)	30.62 ha	28.47 ha

Table 7-23 shows a reduction in clearing when compared to the Proposal as assessed in the EIS. This reduction is primarily attributable to the revised vegetation mapping for the Amended Development Site following further site inspection and aerial photograph interpretation to remove areas of cleared exotic-dominated vegetation and hardstand.

Threatened flora and fauna species and their habitat

The Amended Proposal would have direct impacts on populations of three threatened flora species listed under the TSC Act and EPBC Act. The EIS identified impacts on two threatened flora species (*Persoonia nutans* and *Grevillea parviflora* subsp. *parviflora*). Subsequent investigations in 2017 identified an additional threatened flora species listed under the TSC Act, *Hibbertia puberula* subsp. *puberula*, on the Amended Development Site, and included updated counts of the two threatened flora species that were considered in the EIS, *Persoonia nutans* and *Grevillea parviflora* subsp. *parviflora*. Table 7-24 summarises the impacts to these species.

Table 7-24 Impacts to threatened flora species

Threatened flora species	Conservation status	Direct impacts
<i>Persoonia nutans</i>	Endangered (EPBC Act and TSC Act)	16 plants
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Vulnerable (EPBC Act and TSC Act)	333 stems
<i>Hibbertia puberula</i> subsp. <i>puberula</i>	Endangered (TSC Act)	83 plants

There would be no increase in direct impacts on the area of threatened flora habitat as a result of the Amended Proposal when compared to the proposal considered by the EIS.

No other threatened plant species listed under the TSC Act and/or EPBC Act are anticipated to be directly or indirectly impacted by the Amended Proposal. Species credits are required to offset the direct impacts to threatened species. The credit requirements are provided in the Updated BAR (Appendix G of this RtS).

The clearing of vegetation would result in the loss of specific fauna habitat components, including live trees, tree hollows, foraging resources, groundlayer habitats such as ground timber and well-developed leaf litter. These resources offer sheltering, foraging, nesting and roosting habitat to a variety of fauna, including threatened fauna, occurring within the locality. Consistent with the Proposal considered by the EIS, the Amended Proposal will require removal of approximately 43 hollow-bearing trees, with no additional hollow bearing trees affected.

The assessment of ecosystem credit species associated with PCTs on the Amended Development Site found that one threatened fauna ecosystem credit species (Little Eagle) is present, two have a high likelihood of occurrence and 16 have a moderate likelihood of occurrence. Ecosystem credits are required to offset the impacts to these threatened fauna species; the credit requirements are provided in the Updated BAR (Appendix G of this RtS).

Groundwater dependent ecosystems

Direct impacts to groundwater dependent ecosystems, such as drawdown of groundwater from the root zone, may occur as a result of earthworks and geotechnical construction activities. This may have the potential to affect retained vegetation and habitat that may utilise the shallow groundwater aquifers present. The riparian vegetation in the west of the site has been identified as having high potential for groundwater interaction.

Aside from the changes to extent of clearing of riparian vegetation that has high potential for groundwater interaction, there is not expected to be any change in impacts on groundwater dependent ecosystems for the Amended Proposal when compared with the proposal considered in the EIS.

Wildlife and habitat corridors and habitat fragmentation

Most of the habitat to be removed for the Amended Proposal is currently fragmented by the existing development. The vegetation in the riparian corridor adjoining the Georges River maintains connectivity with riparian vegetation to the north and south of the Amended Development Site and may facilitate the movement of less mobile species, including cover-dependent species, larger terrestrial mammals and arboreal mammals. The vegetation within the basin outlet locations is currently disturbed, with high abundance and cover of exotic species including invasive weedy species.

The riparian corridor would be directly impacted by the removal of vegetation for construction of sediment basin outlets in three locations. Vegetation would be removed to the water's edge, creating a temporary barrier to habitat connectivity along the riparian corridor; the resulting gaps in the vegetation would range from approximately 40 metres to 72 metres during construction and 22 metres to 72 metres during operation (following revegetation) (Refer to Figure 8.1 in the Updated BAR). It is considered that fewer wide channels are preferable to multiple narrow channels, in order to conserve larger contiguous areas of vegetation and minimise ongoing impacts to EECs from edge effects.

Under criteria in the FBA, impacts on the Georges River corridor require further consideration. Further assessment detail is provided below (at the end of this section).

Riparian land

The 10 metre width allowed for drainage channels in the MPW Concept Approval was found to be inadequate for drainage of a catchment the size of the Amended Development Site without the risk of channel failure and/or significant scouring in a major rainfall event. The initial design included four OSDs, each requiring an outlet channel through the riparian zone; this was reduced to three to minimise fragmentation of the riparian vegetation and the number of fauna crossings required.

Areas of riparian vegetation would be removed for the three basin outlets and the covered drain required for the Amended Proposal. The impacts to riparian vegetation at the three basin outlets were considered for the Amended Proposal. Riparian vegetation to be impacted at the three basin outlets (1.49 hectares) and covered drain (0.07 hectares) total 1.56 hectares of Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin. This is a reduction

from the originally proposed removal of 1.67 hectares of riparian vegetation for the basin outlets identified in the EIS.

The retained riparian vegetation adjoining the Amended Development Site would be conserved and restored, within the area known as the Moorebank Conservation Area under the MPW Concept Approval (refer to condition D17).

At its narrowest point, the setback of the Amended Development Site footprint from the vegetated river edge is approximately 40 metres and therefore meets the requirements of Condition E16 of the MPW Concept Approval. The remainder of the retained riparian vegetation ranges in width up to 290 metres at its widest point. Refer to Figure 1-2 in Section 1 (Introduction) of this RfS.

Indirect impacts

The following indirect impacts to adjoining areas of biodiversity value in the Georges River riparian corridor may occur during construction and / or operation of the Amended Proposal.

- Sedimentation and erosion resulting from the importation, stockpiling and placement of clean general fill has the potential to degrade the riparian vegetation
- Alteration and reduction in surface water flows during operation, due to any run-off from the (raised) ground level of the Amended Development Site being directed into drainage infrastructure (pit and pipe arrangement and/or detention basins), and away from retained native vegetation
- Construction noise associated with the Amended Proposal may cause temporary disturbance to animals using the riparian zone with the impacts from noise emissions likely to be limited to areas close to the Amended Development Site (up to 100 m). The Amended Proposal is not likely to have a significant, long-term, impact on wildlife populations in the region and it is noted that the wildlife present in the riparian zone adjoining the Amended Development Site is likely to be habituated to frequent noise exposure as a result of current activities on the site and in the locality
- Dust generated during construction may be deposited onto the foliage of adjacent native vegetation. This has potential to reduce photosynthesis, which may reduce the overall health of the vegetation adjacent to the Amended Development Site through changes to vegetation structure and composition
- Levels of artificial light would be substantially increased where construction activities occur during the evening and night periods, or during operation due to fixed lighting and transitory light sources (trucks, trains and light vehicles). Artificial light has the potential to disrupt fauna foraging, nesting or roosting behaviours
- Clearing associated with the Amended Proposal would result in increased edge effects on the habitat of the Georges River riparian corridor in the short term. However, given the relatively narrow existing width of this corridor and its existing high edge to area ratio, along with its clearing history, edge effects are already severe in many patches
- Feral pest, weed and/or pathogen encroachment into adjoining vegetation:
 - The vegetation of the riparian corridor currently has a moderate to high level of weed invasion, particularly of woody and vine weeds. Weeds could be further dispersed into areas of native vegetation adjoining the Amended Development Site, particularly adjacent to cleared areas
 - The habitat that would be removed for the Amended Proposal is already affected by pest species. Removal of this habitat would result in a reduction in habitat available to these species. In the short term this could lead to increased

competition for resources (e.g. tree hollows) and increased pressure on remaining habitats

- There is potential for pathogens including Amphibian Chytrid Fungus, Exotic Rust Fungi and Phytophthora Root Rot Fungus to occur on the Amended Development Site at present or in the future. With the implementation of hygiene procedures for the use of vehicles and the importation of materials to the site, the risk of introducing or spreading these pathogens would be low.

The indirect impacts of the Amended Proposal, compared with the Proposal considered by the EIS, would be similar, with Amended Proposal components unlikely to increase the extent or severity of these impacts. Mitigation measures have been proposed to address indirect impacts.

Comparison with impacts of the MPW Concept EIS

The direct and indirect impacts of the Amended Proposal are similar in nature and extent to the impacts identified for the MPW Concept Approval. Additional impacts to threatened species have been identified, as well as additional areas of riparian vegetation to be cleared for sediment basin outlets. A comparison of the impacts considered by PB (2014b) and the impacts of the Amended Proposal is presented in Table 7-25.

Table 7-25: Comparison of impacts assessed in PB (2014b) and the impacts of the Proposal.

Impact	MPW Concept Approval impacts (full build)	Amended Proposal impacts
Vegetation clearing and habitat loss	Vegetation clearing would occur throughout the eastern part of the MPW Concept Development Site adjacent to Moorebank Avenue and would extend to the west through the middle of the site to the existing riparian vegetation corridor along the Georges River. Three sediment basin outlets intersecting the riparian corridor were assumed to require clearing of about 10 metres wide.	Vegetation clearing would occur through similar area as assessed for the MPW Concept Approval, with the exception of the rail crossing of the Georges River (subject to separate approval) and with a greater extent of clearing for the three sediment basin outlets and covered drain within the riparian zone adjoining the Georges River.
Loss of roosting and breeding habitat in hollow bearing trees	Removal of over 43 hollow-bearing trees containing hollows of a wide variety of shapes and sizes, ranging from narrow cracks and fissures in dead wood, to hollows within tree trunks with very large entrance diameters (>300mm) and large internal volumes. The majority of the hollows that would be lost are in trees located in heavily cleared areas of the MPW Concept Development Site.	Consistent impacts to those identified for the MPW Concept Approval. No additional hollow-bearing trees were identified in the additional riparian vegetation to be cleared.
Direct mortality	Specimens of <i>Grevillea parviflora</i> subsp. <i>parviflora</i> and <i>Persoonia nutans</i> on the site would be killed during clearing unless a translocation program for these species is implemented.	An additional threatened plant species, <i>Hibbertia puberula</i> subsp. <i>puberula</i> , was identified on the Amended Development Site and will be directly impacted.

Impact	MPW Concept Approval impacts (full build)	Amended Proposal impacts
	Fauna injury or death could occur as a result of the construction phase, particularly when vegetation is being cleared and existing detention basins filled.	
Loss of foraging resources	In addition to the displacement of resident animals and loss of shelter, vegetation clearing would result in the loss of potential foraging resources for species which shelter and breed outside the MPW Concept Development Site. This loss may impact highly mobile fauna species occurring in adjacent habitat.	Consistent impacts to those identified in the MPW Concept Approval. A similar area of foraging habitat would be removed.
Fragmentation and loss of connectivity	<p>The MPW Project would result in the removal of a substantial area of woodland/forest habitat. This habitat is currently isolated/fragmented by existing rail infrastructure, internal and external roads, built and landscaped areas, sporting fields and a golf course.</p> <p>The MPW Project is not likely to significantly fragment or isolate retained vegetation along the Georges River Corridor. The proposed Rail link across the Georges River would create a break in the canopy of the riparian vegetation approximately 50 m in width.</p> <p>The proposed overland drainage channels which form part of the stormwater infrastructure for the MPW Project would result in minor (<10 m wide) gaps in the canopy in the short term; however vegetation restoration would restore canopy connectivity in the medium term to long term.</p>	<p>The Amended Proposal does not include the Rail link across the Georges River.</p> <p>The proposed stormwater basin outlets would be wider than considered for the MPW Concept Approval and may result in further fragmentation of the riparian corridor.</p>
Increased edge effects	<p>As most patches of native vegetation across the MPW Concept Development Site would be entirely removed, there would be no increase in edge effects on these patches.</p> <p>In the short term, the MPW Project would result in increased edge effects on the habitat of the Georges River riparian corridor due to clearing, particularly for overland drainage infrastructure. Due to the relatively narrow existing width of this corridor and its existing high edge to area ratio, edge effects are already quite severe. The short-term increase in edge effects as a result of the MPW Project is, therefore,</p>	Consistent impacts to those identified for the MPW Concept Approval. Changes to edge effects are limited to the sediment basin outlets which are now wider than contemplated by the MPW Concept Approval and the addition of the covered drain.

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Impact	MPW Concept Approval impacts (full build)	Amended Proposal impacts
	unlikely to significantly alter the present edge effects on this habitat.	
Noise impacts on fauna	The wildlife of the MPW Concept Development Site is likely to be habituated to frequent noise exposure as a result of current activities on and adjoining the site. While the construction phases of the MPW Project may cause temporary disturbance to animals, the impacts from noise emissions are likely to be localised close to MPW Concept Development Site (up to 100 m) and are not likely to have a significant, long-term, impact on wildlife populations.	Consistent impacts to those identified for the MPW Concept Approval. Noise levels are not expected to increase from those assessed for the MPW Concept Approval.
Light impacts to fauna	Under present conditions there is little light pollution of the core habitat of the MPW Concept Development Site, within the vegetation along the Georges River. Light pollution is likely to be substantially higher during the construction and operation of the MPW Project due to fixed lighting within the facility and lighting from trucks and trains.	Consistent impacts to those identified in the MPW Concept EIS.
Dust pollution	Dust generated during construction may be deposited onto the foliage of adjacent native vegetation. This has potential to reduce photosynthesis, which may reduce the overall health of the vegetation adjacent to the MPW Concept Development Site through changes to vegetation structure and composition.	Same impacts as those identified for the MPW Concept Approval.
Introduction and spread of weeds, pests and pathogens	<p>The MPW Project has the potential to further disperse weeds into areas of native vegetation within the MPW Concept Development Site, particularly adjacent to cleared areas. The vegetation of the riparian corridor currently has a moderate to high level of weed invasion, particularly of woody and vine weeds.</p> <p>The habitat that would be removed for the MPW Project is already affected by pest species. Removal of this habitat would result in a reduction in habitat available to these species. In the short term this may lead to increased competition for resources (e.g. tree hollows) and increased pressure on remaining habitats.</p> <p>There is potential for pathogens including Amphibian Chytrid Fungus, Exotic Rust</p>	Same impacts as those identified for the MPW Concept Approval.

Impact	MPW Concept Approval impacts (full build)	Amended Proposal impacts
	<p>Fungi and Phytophthora Root Rot Fungus to occur on the site at present or in the future. With the implementation of hygiene procedures for the use of vehicles and the importation of materials to the site, the risk of introducing or spreading these pathogens would be low.</p>	
Fire regimes	<p>The MPW Concept Development Site has been identified as containing bushfire prone land. With the implementation of design and management measures, the risk of the project causing a change to fire regimes that would be detrimental to biodiversity is low.</p>	<p>Same impacts as those identified for the MPW Concept Approval.</p>
Disturbance to aquatic habitat	<p>Bridges would have multiple piers located both adjacent to the Georges River and within the Georges River floodplain. If possible, it is not intended to locate any bridge piers within the river channel itself. Impacts could include: possible disturbance to the substrate of the river or removal of submerged or emergent aquatic vegetation; shading of aquatic vegetation; potential increases in turbidity from construction runoff; accidental spillage/leakage of construction materials; loss of fringing and riparian vegetation.</p> <p>The section of Anzac Creek on the MPW Concept Development Site would be removed, and flows redirected through stormwater detention basins on the MPW Concept Development Site. Removal of this creek was considered by PB (2014b) to be unlikely to result in a significant negative impact to the receiving waters of the remainder of Anzac Creek, as current inflows are likely to be polluted with fertilisers, pesticides and silt and would constitute only a small proportion of total inflows.</p>	<p>The Amended Proposal does not include the rail link across the Georges River, therefore impacts arising from the bridge construction are not applicable. There would be potential impacts to aquatic habitats in the Georges River as a result of vegetation clearing for the proposed sediment basin outlets and the covered drain.</p> <p>Impacts to Anzac Creek would be consistent with those identified for the MPW Concept Approval.</p>
Disturbance of groundwater dependent ecosystems	<p>Impacts to groundwater dependent ecosystems, such as drawdown of groundwater from the root zone, may occur as a result of earthworks and geotechnical construction activities. This may have the potential to affect retained vegetation and habitat that may utilise the shallow groundwater aquifers present. The Alluvial Woodland vegetation in the west of the site</p>	<p>Same impacts as those identified for the MPW Concept Approval.</p>

Impact	MPW Concept Approval impacts (full build)	Amended Proposal impacts
	has been identified as having high potential for groundwater interaction.	

Impacts requiring further consideration under the FBA

Under the FBA, certain impacts on biodiversity values require further consideration by the relevant consent authority. These are impacts that are considered to be complicated or severe, and a decision will be made by the relevant consent authority on whether it is appropriate for these impacts to occur, and whether additional offsets, supplementary measures or other actions may be required. Impacts related to the Amended Proposal that require further consideration include:

- Impacts that will substantially reduce the width of vegetation in the riparian buffer zone bordering rivers and streams 4th order or greater.
- Impacts in state biodiversity links.

The Georges River is at least a 6th order stream. The area within 50 metres of the Georges River is defined as a state biodiversity link under the FBA and would be impacted by the removal of vegetation for construction of sediment basin outlets in three locations, as well as an additional covered drain in the north of the riparian zone within the Endeavour Energy easement. Vegetation would be removed to the water's edge, creating a temporary barrier to habitat connectivity along the riparian corridor during construction. During operation, fauna movement would not be significantly impeded with the enhancement of connectivity through strategic revegetation and other fauna habitat features such as rocks and hollow logs to provide cover in these areas.

The vegetation within the basin outlet locations is currently disturbed, with high abundance and cover of exotic species including invasive weedy species such as *Lantana camara*, *Ligustrum* spp., *Cardiospermum grandiflorum* and *Arundo donax*.

The location of basin outlet 5 is also the location of existing drainage infrastructure which has failed, resulting in an incised and scoured drainage line on the steep slope down to the Georges River, and there is dense cover of *Lantana camara* on the slope.

The vegetation in the Endeavour Energy easement at the northern extent of the riparian corridor on the Amended Development Site is largely cleared of native vegetation and supports a regularly mown/slashed grassland. Adjacent land to the north is also cleared. At the western end of the easement is a steep, eroded slope supporting scattered native trees and shrubs.

The outlets have been designed to provide a long-term, engineered solution to the existing and proposed drainage issues in the local catchment and to prevent further impacts to the Georges River. Without the outlets, there would be a risk of major scouring and erosion of the river banks, and loss and degradation of native vegetation. This is considered a worse outcome when compared to the impacts of the Amended Proposal.

Since the EIS, a review of the width of the drainage channels has been undertaken as part of the Amended Proposal with a view to reducing the footprint, and therefore reducing the clearing required and direct impacts. The design of the northern channel has been refined to reduce the width of the channel, and a maintenance access road has been removed from the central channel to reduce its overall width. The reduction in widths to these two channels has resulted in a reduction in the associated vegetation clearance at these locations for the Amended Proposal when compared to the direct impact of the Proposal considered by the EIS.

The approximate widths of the basin outlet impact areas during construction and operation (following revegetation), and consequent gaps in the riparian corridor vegetation, are as follows:

- Basin 5: 40 to 72 metres during construction, and 25 to 72 metres during operation
- Basin 6: 41 metres during construction, and 22 metres during operation
- Basin 8: 52 metres during construction, and 30 to 50 metres during operation.

The areas to be disturbed would be re-contoured and partially revegetated upon completion of the basin outlets to restore habitat connectivity. While there would be a temporary and short term impact during construction of the outlets, the permanent impacts would be unlikely to significantly impede fauna movement with proposed provided connectivity enhancements using strategic revegetation and other fauna habitat features such as rocks and hollows logs to provide cover in these areas.

The impacts to the Georges River riparian corridor are considered unlikely to fall into the category of impacts requiring further consideration as they:

- Will not result in a gap greater than 100 metres between two areas of moderate to good condition native vegetation with a patch size greater than 1 ha.
- Will not remove over-storey cover and mid-storey cover vegetation within the state significant biodiversity link to create a gap in over-storey cover vegetation greater than 100 metres.
- Will not create a hostile barrier within the state significant biodiversity link.

Mitigation measures

This assessment concludes that the Amended Proposal would result in construction and operational impacts generally consistent with those already identified and assessed as part of the EIS.

The design development of the Amended Proposal has avoided biodiversity impacts where possible, however in some areas impacts are evident. As such, the measures in

Table 7-26 should be implemented to mitigate these impacts during construction and operation.

Table 7-26: Measures to be implemented to minimise impacts on biodiversity

Mitigation measure	Outcome	Timing	Responsibility
<p>Following detailed design and before construction, detailed flora and fauna mitigation measures would be developed and presented as part of the CEMP. These detailed measures would incorporate the measures listed below.</p> <p>The CEMP would address:</p> <ul style="list-style-type: none"> ▪ general impact mitigation ▪ staff/contractor inductions ▪ vegetation clearing protocols including identification of exclusion zones 	<p>Flora and fauna would be managed in accordance with the requirements of the CEMP.</p>	<p>Pre-construction and construction</p>	<p>Design contractor, construction contractor</p>

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Mitigation measure	Outcome	Timing	Responsibility
<ul style="list-style-type: none"> ▪ pre-clearing surveys and fauna salvage/translocation ▪ rehabilitation and restitution of adjoining habitat ▪ weed control ▪ pest management ▪ monitoring. <p>The plans would include clear objectives and actions for the Proposal including how to:</p> <ul style="list-style-type: none"> ▪ minimise human interferences to flora and fauna ▪ minimise vegetation clearing/disturbance ▪ minimise impact to threatened species and communities ▪ minimise impacts to aquatic habitats and species ▪ undertake flora and fauna monitoring at regular intervals. 			
<p>Vegetation clearing would be restricted to the construction footprint and sensitive areas, outside of this footprint, would be clearly identified as exclusion zones.</p>	Prevention of over clearing of vegetation	Pre-construction and Construction	Design contractor, construction contractor
<p>The exclusion zones would be marked on maps, which would be provided to contractors, and would also be marked on the ground using high visibility fencing (such as barrier mesh).</p>	Prevention of over clearing of vegetation	Pre-construction and Construction	Design contractor, construction contractor
<p>A suitably qualified ecologist would accompany clearing crews to ensure disturbance is minimised and to assist in relocating any native fauna to adjacent habitat.</p>	Prevention of over clearing of vegetation and fauna injury/mortality	Construction	Construction contractor
<p>The following procedures would be implemented to minimise fauna impacts from vegetation clearance:</p> <ul style="list-style-type: none"> ▪ A staged habitat removal process would be developed and would include the identification and marking of all habitat trees in the area. 	Prevents fauna injury/mortality	Construction	Construction contractor

Mitigation measure	Outcome	Timing	Responsibility
<ul style="list-style-type: none"> ▪ Where reasonable and feasible, clearing of hollow-bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow-dependent birds in the locality are also unlikely to be breeding. ▪ Pre-clearing surveys would be conducted 12 to 48 hours before vegetation clearing to search for native wildlife (e.g. reptiles, frogs, Cumberland Land Snail) that can be captured and relocated to the retained riparian vegetation of the Georges River corridor. ▪ Vegetation would be cleared from a 10 m radius around habitat trees to encourage animals roosting in hollows to leave the tree. A minimum 48 hour waiting period would allow animals to leave. ▪ After the waiting period, standing habitat trees would be shaken (where safe and practicable) under the supervision of an ecologist to encourage animals roosting in hollows to leave the trees, which may then be felled, commencing with the most distant trees from secure habitat. ▪ Felled habitat trees would either be immediately moved to the edge of retained vegetation, or left on the ground for a further 24 hours before being removed from the construction area, at the discretion of the supervising ecologist. ▪ All contractors would have the contact numbers of wildlife rescue groups and would be instructed to coordinate with 			

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Mitigation measure	Outcome	Timing	Responsibility
these groups in relation to any animal injured or orphaned during clearing.			
<p>Within areas of high quality intact native vegetation proposed to be removed:</p> <ul style="list-style-type: none"> ▪ Topsoil (and seedbank) is to be collected from native vegetation that are to be permanently cleared and used in the revegetation of riparian areas ▪ Where feasible and reasonable native plants in areas that are to be permanently cleared are to be relocated and transplanted in riparian areas identified for rehabilitation 	Conservation of genetic material from local native plant communities	Construction	Construction contractor
Relocation of fauna to adjacent retained habitat would be undertaken by an ecologist during the supervision of vegetation removal.	Prevents fauna injury/mortality	Construction	Construction contractor
<p>An ecologist would supervise the drainage of any waterbodies on the Proposal site and would relocate tortoises and frogs to the edge of the Georges River and/or the existing pond at the northern end of the Proposal site.</p> <p>Native fish (e.g. eels) that are endemic to the Sydney area would be translocated from drained ponds/dams on the site to natural waterways and pest fish would be euthanised on ice. If non-endemic native species are encountered on site, DPI Fisheries would be consulted to determine the best location to translocate this species.</p>	Prevents fauna injury/mortality	Construction	Construction contractor
The design of temporary site fencing and any overhead powerlines would consider the potential for collision by birds and bats and minimise this risk where practicable.	Prevents fauna injury/mortality	Detailed design & Pre-construction	Design contractor

Mitigation measure	Outcome	Timing	Responsibility
The potential for translocation of threatened plant species as individuals or as part of a soil translocation process would be considered during the detailed development of the CEMP.	Reducing impacts to threatened plant species	Detailed design & Pre-construction	Design contractor, construction contractor
Important habitat elements (e.g. large woody debris) would be moved from the construction area to locations within the conservation area which would not be cleared during the Proposal, or to stockpiles for later use in vegetation/habitat restoration.	Retaining fauna habitat resources	Pre-construction and Construction	Design contractor, construction contractor
Winter-flowering trees would be preferentially planted in landscaped areas of the Proposal site to provide a winter foraging resource for migratory and nomadic nectar-feeding birds and the Grey-headed Flying-fox.	Maintaining and enhancing fauna habitat resources	Detailed design, Pre-construction and Construction	Design contractor, construction contractor
Erosion and sediment control measures such as silt fencing and hay bales would be used to minimise sedimentation of streams and resultant impacts on aquatic habitats and water quality.	Prevention of sedimentation and erosion leading to a reduction in water quality and degradation of aquatic habitats	Pre-construction and Construction	Design contractor, construction contractor
Opportunities for planting of detention basins with native aquatic emergent plants and fringing trees would be explored in the detailed design of the Proposal and, if practicable, implemented so that they would provide similar habitat in the medium term to that lost through the removal of existing basins.	Maintain aquatic habitat values	Pre-construction	Design contractor, construction contractor
The CEMP (or equivalent) would include detailed measures for minimising the risk of introducing weeds and pathogens.	Prevention of weed establishment and invasion	Pre-construction	
The CEMP and OEMP for the Proposal would consider and have reference to the weed removal and riparian vegetation restoration undertaken within parts of the Georges River	Prevention of weed establishment and invasion	Pre-construction, construction and operation	Operations contractor

Moorebank Precinct West

Mitigation measure	Outcome	Timing	Responsibility
corridor under the MPW Concept Approval (identified within the Biodiversity Offset Package for the MPW Project).			
The detailed design process would consider the potential groundwater impacts on groundwater-dependent ecosystems. In most cases, these impacts would be mitigated at the design phase.	Prevention of impacts to groundwater-dependent ecosystems.	Detailed design & Pre-construction	Design contractor, construction contractor, operations contractor
The OEMP would include a biodiversity monitoring program designed to detect operational impacts of the Georges River riparian corridor (within the offset site).	Minimise impacts to native riparian vegetation, retains habitat connectivity and improves native biodiversity values along riparian corridor of the Georges River	Pre-construction, construction and operation	Operations contractor
Ongoing monitoring of macroinvertebrate communities will be undertaken prior to, during and following construction upstream and downstream of the proposed impacts at the proposed basin outlets in the Georges River and reference locations to assist in identifying any changes in aquatic communities.	Minimise impacts to the aquatic environment in the Georges River.	Pre-construction, construction and operation	Design contractor, construction contractor, operations contractor
The proposed stormwater basin outlets would be designed to minimise biodiversity impacts by incorporating native revegetation and fauna habitat features as far as possible.	Maintaining native vegetation values and fauna connectivity in basin outlets (which are located within the proposed conservation area)	Pre-construction	Design contractor
The native vegetation and connectivity values in the proposed basin outlets would be monitored to ensure that fauna passage is maintained.	Maintaining native vegetation values and fauna connectivity in basin outlets (which are located within the proposed conservation area)	Construction and operation	Construction contractor, operations contractor

Mitigation measure	Outcome	Timing	Responsibility
During operation, both threatened and non-threatened species of frogs and reptiles may be at risk of injury or mortality. Controls such as fencing would be put in place to keep land-based fauna away from the operating terminals.	Prevents fauna injury/mortality	Operation	Operations contractor
A monitoring program would be developed and implemented to measure the performance of revegetation activities in the Georges River riparian zone and associated conservation area.	Minimise impacts to native riparian vegetation, retains habitat connectivity and improves native biodiversity values along riparian corridor of the Georges River	Construction and operation	Construction contractor, operations contractor

A revised compilation of mitigation measures for the Amended Proposal is included in Section 8 of this RtS.

Offsetting impacts

Offset credit requirements

Under the *NSW Biodiversity Offsets Policy for Major Projects*, a biobanking agreement is required to be used to secure an offset site. The ecosystem and species credit offset requirements for the biodiversity impacts of the Amended Proposal are detailed below.

A calculation using the FBA calculator was prepared by Jane Rodd (Assessor No. 0023) for the Amended Development Site, adopting the revised impact areas and vegetation classifications, in order to obtain credit values for the Amended Proposal.

Impacts on native vegetation

Loss of landscape and site value for each PCT and its associated ecosystem species, as determined using the credit calculator, is presented in Table 7-27. The PCTs to be offset are shown in Figure 7-4. The full credit report is provided in the Updated BAR included in Appendix G.

Moorebank Precinct West

Table 7-27: Impact summary for PCTs and associated ecosystem credit species requiring offsets and their required credits

Vegetation zone	Associated EECs and/or Threatened Species	Loss in landscape value	Loss in site value score	Number of Ecosystem credits required
Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin (ME003): Moderate/Good	Castlereagh Scribbly Gum Woodland of the Sydney Basin bioregion (VEC) <i>Persoonia nutans</i> <i>Grevillea parviflora</i> subsp. <i>parviflora</i> <i>Hibbertia puberula</i> subsp. <i>puberula</i>	27.5	54.17	495
Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin (ME005): Moderate/Good	Castlereagh Swamp Woodland (EEC)	27.5	33.33	22
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (ME018): Moderate/Good	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions (EEC)	27.5	50.35	1204
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (ME018): Moderate/Good - Poor	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions (EEC)	27.5	29.69	115

Impacts on threatened species

Impacts to threatened species credit species and their associated species credits are summarised in Table 7-28. The full credit report is provided in the Updated BAR included in Appendix G.

Table 7-28 Impact summary for threatened species credit species requiring offsets and their required credits

Scientific name	Common name	Status	Direct Impacts	Number of species credits required
<i>Persoonia nutans</i>	Nodding Geebung	Endangered	16	1232
<i>Grevillea parviflora</i> subsp. <i>parviflora</i>	Small-flowered Grevillea	Vulnerable	333	4662
<i>Hibbertia puberula</i> subsp. <i>puberula</i>	-	Endangered	83	3320

Offset strategy and package

A Biodiversity Offset Strategy (BOS) was prepared as part of the MPW Concept EIS and is included in PB (2014b). Three areas were identified as proposed offset sites in the BOS. The areas are referred to as:

- Moorebank Conservation Area
- Wattle Grove Offset Area
- Casula Offset Area

The offset areas as defined in PB (2014b) have undergone further assessment and minor boundary adjustments, and are proposed to be established as biobank areas; the biobanking agreement application pertaining to these areas was lodged with the NSW Office of Environment and Heritage (OEH) on 7 March 2017. These areas are intended to form the primary offsets for the biodiversity impacts associated with the Amended Proposal. A BAR was prepared to accompany the biobanking agreement application in order to determine the credit values generated on the proposed offset sites (WSP PB, 2017).

A comprehensive Biodiversity Offset Package (BOP) for the MPW Project is required to be prepared and implemented under condition D17 of the MPW Concept Approval. The BOP will be prepared in accordance with the *NSW Biodiversity Offsets Policy for Major Projects* and will aim to offset all biodiversity impacts of the MPW Project. The BOP will, either initially or via a subsequent amendment, consider all of the relevant biodiversity impacts of the Amended Proposal.

Condition E15 of the MPW Concept Approval requires development applications to consider measures to improve the condition of the vegetation along the western bank of the Georges River (the 'hourglass land'). The hourglass land is associated with the development of the Rail Access Link delivered under the MPE Stage 1 Approval (SSD-6766) and is a biobanking offset site in the biobanking agreement application that has been submitted to, and is currently being assessed by OEH. In the biobanking agreement application the hourglass land it is referred to as the Casula Offset Area and comprises part of Lot 4 DP 1130937.

It is intended that Casula Offset Area will form part of the Biodiversity Offset Package required by condition C23 of the MPE Stage 1 Approval (SSD-6766). The proposed biobanking agreement application (WPS PB, 2017) includes the following management objectives for Management Zone 12, which includes the Casula Offset Area:

- Reduce herbaceous weed coverage through primary and secondary works
- Suppress herbaceous weeds and exotic grasses through primary work (slashing)
- Prepare direct seeding areas through ripping plots
- Infill native canopy and shrub species through planting
- Prevent new weed incursions through regular maintenance works
- Reduce current weed densities to <50% exotic plant foliage cover
- Remove propagules from site (where appropriate) and raft biomass to decompose on site
- Hand plant tube stock of native canopy and shrub species into treated areas after initial works are completed to infill canopy gaps
- Assist the regeneration of native canopy, shrub and groundcover species.
- Monitor pest fauna presence.

The biobanking agreement covering the Casula Offset Area and the associated management objectives listed above is the mechanism by which the condition of vegetation would be improved, as required by condition E15 of the MPW Concept Approval.

7.1.6 Stormwater and Flooding

MPW Stage 2 Proposal

An assessment of the potential stormwater and flooding impacts was undertaken by Arcadis for the EIS. The Proposal site is located entirely within the Georges River catchment, with the majority of the Proposal site draining into the Georges River. A small wetland (Amiens wetland) is located in the north eastern corner of the Proposal site, which acts as a controlled detention basin for the M5 Motorway and adjacent catchment. In addition, Anzac Creek receives surface flows from a very small portion of the Proposal site, located in the south eastern corner.

Construction of the Proposal would require vegetation clearing and the importation and placement of large amounts of fill material to level and raise the site, which has the potential to lead to erosion and generate sediment laden runoff into the Georges River, thereby impacting water quality. The majority of the Proposal site has been assessed as having a low erosion potential, however, works within the vicinity of the Georges River and Anzac Creek would have high erosion potential and would be managed accordingly. A Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP) would be prepared in accordance with the principles and requirements of the Blue Book. These SWMP and ESCP would be implemented during construction, and would include sediment basins positioned generally along the western boundary of the Proposal site, with an additional basin near the south eastern corner of the Proposal site to treat any flows that may discharge to Anzac Creek. The risk of regional flooding for a storm event up to the 100 year ARI or PMF event is considered negligible for all construction works outside of the Georges River riparian corridor.

Development of the Proposal would result in changes to the Proposal's catchment boundaries during operations which would, where possible, replicate natural flow patterns. Onsite detention (OSD) in the form of sediment basins, outlet channels and water sensitive urban design (WSUD) elements have been sized to provide adequate system capacities and mitigate potential adverse flood impacts and increases in stormwater discharge from the Proposal site that may otherwise result from the Proposal. WSUD measures, including gross pollutant traps and rain gardens, have been included and designed to manage the quality of stormwater leaving the Proposal

site to an equivalent quality to the existing conditions, or provide an improvement to stormwater quality leaving the site. Maintenance of OSD and WSUD structures, as well as water quality monitoring would be included in the OEMP for the Proposal.

A Flood Emergency Response Plan (FERP) would be developed for the Proposal site. The FERP would take into consideration, site flooding and broader flood emergency response plans for the Georges River floodplains and Moorebank area.

Impact Assessment – Amended Proposal

Further stormwater and flooding assessment has been conducted in relation to the Amended Proposal and this has included a Stormwater and Flooding Addendum prepared by Arcadis (2017) (refer to Appendix H of this RtS). The main findings of the further assessment are summarised below.

Construction

A summary of the key findings of the further stormwater and flooding impact assessment, from a construction perspective, are provided in Table 7-29.

Table 7-29: Summary of the construction stormwater and flooding impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter the construction activities required for the Proposal, and therefore would not change the construction stage stormwater and flooding impacts identified in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	<p>Inclusion of the OSD (Basin 10) and relocation of another OSD (Basin 3) along the eastern boundary of the Proposal site would not increase the area of site disturbance or significantly change construction activities.</p> <p>Re-sizing of OSD basins along the western boundary of the Proposal site and the provision of an additional covered drain within and the Endeavour Energy easement would result in a minor increase to the construction footprint. At the same time, the reduction in the widths of OSD outlet channels traversing the Georges River riparian corridor would result in a minor decrease to the construction footprint.</p> <p>Together these drainage works would not change the construction stage stormwater and flooding impacts included in the EIS. There would also be no change to construction soil and water management measures and principles. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not increase the area of site disturbance and would not significantly change construction activities. Therefore, no further assessment is considered necessary in relation to this amendment.
Illuminated signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the construction activities required for the Proposal and would not change the assessment of construction stage stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.

Amendment	Assessment
Upgraded layout for Moorebank Avenue/Anzac Road intersection	<p>Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not significantly alter the construction activities and would only result in a minor increase to the construction area.</p> <p>The upgraded layout would not change the assessment of construction stage stormwater and flooding impacts included in the EIS and would not change proposed construction soil and water management measures and principles. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Adjustments to warehouse layouts	<p>Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter assessment of construction stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.</p>

Operation

A summary of the key findings of the further stormwater and flooding impact assessment, from an operational perspective, are provided in Table 7-30.

Table 7-30: Summary of the operational stormwater and flooding impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	<p>24-hour operation of the warehousing would not alter assessment of construction stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Drainage works	<p>The proposed drainage works represent a change to the drainage design for the Proposal and therefore have the potential to alter operational stormwater and flooding impacts. Further assessment of potential operational stormwater and flooding impacts associated with this amendment is provided below.</p>
Container wash-down facilities and de-gassing areas	<p>The inclusion of container wash-down and de-gassing areas would not alter assessment of construction stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Illuminated backlit signage	<p>Changes to the scale of illuminated signage within the warehousing area during operation would not alter assessment of construction stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Upgraded layout for Moorebank Avenue/Anzac Road intersection	<p>Minor adjustments to the drainage design would be required to accommodate the upgraded Moorebank Avenue/Anzac Road intersection layout but this change would not alter assessment of construction stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.</p>
Adjustments to warehouse layouts	<p>Adjustments to warehouse layouts would not alter assessment of construction stormwater and flooding impacts included in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.</p>

Inclusion of the OSD along the eastern boundary

As part of the design development process, the need for an OSD storage along the eastern boundary of the MPW site to improve the drainage of the Proposal site and the surrounding land uses was identified. As a result, an OSD (Basin 10) is proposed to be provided along the eastern boundary of the Proposal site and is the same as the 'western OSD' identified and included as part of the MPE Stage 2 Proposal (SSD 7628). Basin 10 has now been included within the Amended Proposal to highlight that it would service both proposals and to ensure it is recognised in both approvals.

Stormwater runoff from within the Proposal site, MPE site and Moorebank Avenue would be conveyed through pit and pipe systems to Basin 10. Water from the OSD would then discharge to the main culvert/channel (to the north) that flows westwards through the MPW site and discharges to the Georges River (refer to Section 6 of this RtS).

Assessment methodology

DRAINS modelling software was used to generate rainfall runoff models that represent both existing and post development site conditions to enable a comparison of discharges and to quantify Basin 10's performance. Further detail on the assessment methodology is included in the Stormwater and Flooding Addendum (refer to Appendix H of this RtS).

Assessment results

A comparison of DRAINS model existing condition and post-development condition flows downstream of the Proposal site is provided in Table 7-31. A summary of the performance of the OSD storages is provided in Table 7-32 and the results indicate that the proposed detention storages (including Basin 10) would adequately mitigate potential flow increases leaving the Proposal site in the 100 year ARI.

Table 7-31: Outlet C Existing Conditions and Proposed Development Peak Flows

Discharge Location	Site Condition	Catchment Area (ha)	DRAINS Model Label	Flow (m ³ /s)		
				5yr ARI	100yr ARI	PMF
Outlet C	Existing	59.95	EX Channel	6.9	12.9	75
(just downstream of Moorebank Avenue)	Proposed	61.72	Channel	4.7	6.9	120

Table 7-32: Basin 10 Detention Storage Performance Summary

Storage [water quality extended detention level mAHD]	Catchment Area (ha)	Event	Peak Inflow (m ³ /s)	Peak Outflow (m ³ /s)	Water Level (mAHD)	Volume * (m ³)
Basin 10 West Georges River Moorebank Ave – upstream of Outlet C [13.5]	42.20	100 year	25.1	3.1	15.57	24000
		PMF	105	80	17.5	46400

* Approximate active storage above water quality extended detention water level of 13.5m AHD

Relocation of temporary basin 3A

Relocation of temporary Basin 3A (renamed to Basin 3 in its proposed relocated position) to between the Rail link connection and Moorebank Avenue in the south-eastern portion of the Proposal site is proposed as it would:

- Be more effective in the mitigation of stormwater runoff impacts (during operation and construction)
- Remain in this location for the ultimate site operation thereby providing a long-term solution for operational site drainage.

Assessment methodology

The DRAINS software models developed for the EIS (for existing and proposed development conditions) were used to determine OSD performance for the proposed Basin 3 relocation. Catchment areas for existing conditions and the Proposal (development conditions) are included in the Stormwater and Flooding Addendum (refer to Appendix H of this RtS).

Assessment results

A comparison of DRAINS model existing condition and post-development condition flows downstream of Basin 3 is included in Table 7-33. The results indicate that the proposed detention storages would adequately mitigate potential flow increases leaving the Proposal site. A summary of the performance of the OSD storage is provided in Table 7-34.

Table 7-33 Southern Area Existing Conditions and Proposed Development Peak Flows

Discharge Location	Site Condition	Catchment Area (ha)	Flow (m ³ /s)		
			5yr ARI	20yr ARI	100yr ARI
At the upstream of Moorebank Ave	Existing	25.17	1.1	1.6	2.2
	Proposed	9.96	0.7	1.0	1.7

Table 7-34 Basin 3 Detention Storage Performance Summary

Storage [water quality extended detention level mAHD]	Catchment Area (ha)	Event	Peak Inflow (m ³ /s)	Peak Outflow (m ³ /s)	Water Level (mAHD)	Volume* (m ³)
Basin 3 Georges River Moorebank Ave– upstream of Outlet C [15.2]	9.96	100 year	4.5	1.7	16.0	5500

* Approximate active storage above water quality extended detention water level (of 15.2mAHD) .

Re-sizing of OSD Basins 8, 6 and 5

As part of the design development process, Basins 5, 6 and 8, and their associated upstream catchments, have been refined and re-configured to provide more efficient and effective flood mitigation performance (refer to Section 6 of this RtS).

Assessment methodology

The assessment process for re-configuring and re-sizing Basins 8, 6 and 5 involved adjusting the associated catchment areas and basin volumes represented in the DRAINS modelling undertaken as part of the EIS.

Assessment results

A summary of DRAINS model existing condition and post-development condition flows at locations downstream of the Proposal site is included in Table 7-35. A summary of performance of the OSD storages is provided in Table 7-36.

The results indicate that the proposed detention storages are expected to adequately mitigate potential flow increases leaving the Proposal site.

Table 7-35 Georges River Existing Conditions and Proposed Development Peak Flows

Discharge Location	Site Condition	Catchment Area (ha)	Flow (m ³ /s)		
			5yr ARI	100yr ARI	PMF
8 Georges River MPW Site South	Existing	11.17	1.2	2.3	19
	Proposed	26.13	0.3	0.8	30
6 Georges River MPW Site (6+8) *	Existing	55.30	9.3	16.5	88
	Proposed	75.59	1.2	3.1	88
5 Georges River MPW Site (5+6+8) *	Existing	155.53	16.0	29.1	168
	Proposed	184.48	6.2	10.7	177

* Indicates catchment areas and cumulative discharge from Proposal site areas

Table 7-36 Basins 8, 6 and 5 Detention Storage Performance Summary

Storage [water quality extended detention level mAHD]	Catchment Area (ha)	Event	Peak Inflow (m ³ /s)	Peak Outflow (m ³ /s)	Water Level (mAHD)	Volume * (m ³)
8 Georges River MPW Site South [11.8]	26.13	100 year	12.6	0.8	13.62	33100
6 Georges River MPW Site [11.6]	49.46	100 year	23.7	2.3	13.41	54100
5 Georges River MPW Site [11.3]	49.87	100 year	24.2	3.8	13.39	42240

* Approximate active storage above water quality extended detention water level

Reduction to the widths of selected OSD outlet channels

As part of the design development process the opportunity to refine the construction boundaries and areas necessary for the Basin 5 and Basin 6 outlet channels was identified. The assessment found that the outlet channels can have some reduction in width without compromising the overall drainage requirements and operational maintenance of the Proposal as identified within the EIS.

Additional covered drain within the Endeavour Energy easement

Following further site survey in the northern part of the Proposal site (to the north and south of Bapaume Road) the need for additional drainage in this area was identified. As a result, a drainage system that will convey flows from the northern portion of the site to Basin 5 and then via a covered drain and associated outlet partly within the Endeavour Energy easement is proposed (refer to Section 6 of this RtS).

Assessment methodology

DRAINS models generated for the EIS were updated and refined to better represent rainfall-runoff for both existing and post development site conditions.

A water balance assessment has also been undertaken to quantify potential changes in surface runoff volumes which could influence flood impacts. The water balance was determined by:

- MUSIC modelling using a representative continuous 10 year rainfall simulation.
- DRAINS modelling of storm events (5 minute to 24 hours for the 3mth, 5 year, 10 year, 20 year, and 100 year ARIs).

Further detail on the assessment methodology is included in the Stormwater and Flooding Addendum (refer to Appendix H of this RtS).

Assessment results

A comparison of DRAINS model existing condition and post-development condition flows at key locations is included in Table 7-37. A summary of the performance of the OSD Basin 4 storage is provided in Table 7-38, and rainfall-runoff volumes are provided in Table 7-39.

Table 7-37 Northern Area Existing Conditions and Proposed Development Peak Flows *

Discharge Location	Site Condition	Flow (m ³ /s)			
		5yr ARI	10yr ARI	20yr ARI	100yr ARI
Georges R. south of electrical easement	Existing	1.62	1.68	1.72	1.78
	Proposed	1.39	1.59	1.87	2.16
MPW/ABB site boundary adjacent to Bapaume Road	Existing	1.27	1.89	2.7	4.26
	Proposed	0.13	0.16	0.19	0.24
Amiens Wetland inflow	Existing	1.37	1.55	1.80	2.19
	Proposed	0.56 #	0.65 #	0.75 #	0.89 #

Discharge Location	Site Condition	Flow (m ³ /s)			
		5yr ARI	10yr ARI	20yr ARI	100yr ARI
Amiens Wetland outflow	Existing	0.35	0.46	0.64	1.02
	Proposed	0.11 #	0.12 #	0.13 #	0.25 #

* The flow results are based on the water levels in the Georges River being low, such that local catchment runoff is freely discharging into the River.

DRAINS model flows exclude initial 'rain garden' flow which is to enter the Amiens Wetland from Basin 4

Table 7-38 Basin 4 Detention Storage Performance Summary

Event	Peak Inflow (m ³ /s)	Peak Outflow (m ³ /s)	Water Level (mAHD)	Volume (m ³)
100 year	1.93	0.28	11.48	3400
20 year	1.56	0.22	11.45	3170
10 year	1.37	0.11	11.42	3000
5 year	1.23	0.07	11.41	2890

Table 7-39 Indicative Rainfall-Runoff Volumes from local catchments entering the Georges River*

Event	Duration (hours)	Volume (m ³)	
		Existing Conditions	Proposed Development
100 year ARI *	2 hour	22030	10470
	6 hour	32220	16920
20 year ARI *	2 hour	15560	7490
	6 hour	22530	11950
~3 month # [flow rate into Amiens Wetland]	10 years #	21.3 ML [0.014 m ³ /s]	21.3 ML [0.015 m ³ /s]

* DRAINS model area between the Transmission easement and the M5 Motorway (excluding areas diverted to Basin 5).

MUSIC model (10 year simulation period) volumes/flow rates entering the Amiens wetland

The modelling results indicate that:

- Flows from the northern area of the Proposal site that discharge downstream (westward) to the Georges River would be reduced (as indicated in Table 7-37). This is the result of the southern portion of this area being diverted to Basin 5, in combination with the mitigation performance of Basin 4 (as indicated in Table 7-38).
- Flows entering the ABB site (adjacent to Bapaume Road) would be significantly reduced (as indicated in Table 7-37). This is the result of flows from the southern portion of this area being diverted to Basin 5, in combination with the mitigation performance of Basin 4 (as indicated in Table 7-38).
- The volume of rainfall-runoff entering the Georges River from local catchment areas between the Endeavour Energy easement (along the southern boundary of

the ABB site) and the M5 Motorway would be significantly reduced for storm events larger than 3 months (as indicated in Table 7-39). This volume reduction indicates that the potential for local flooding of this area when the Georges River is in flood (resulting in the closing of floodgates) would be mitigated.

- Conveying the Basin 4 first flow (from its rain garden 3 month extended detention volume) while diverting greater flows southward away from the Amiens wetland would maintain water balance to the wetland (as indicated in Table 7-39).

In summary, the assessment results confirm that the proposed stormwater management approach would adequately mitigate potential flow increases within the ABB site and the northern part of Proposal site.

Mitigation measures

Construction

This assessment concludes that the Amended Proposal would result in construction phase stormwater and flooding impacts consistent with those already identified and assessed as part of the EIS. The mitigation measures outlined in MPW Concept Approval and Section 12.5.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the Amended Proposal would result in operation phase stormwater and flooding impacts generally consistent with, or reduced compared to those already identified and assessed as part of the EIS. The mitigation measures outlined in MPW Concept Approval and Section 12.5.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.7 Geology, Soils and Contamination

MPW Stage 2 Proposal

Golder Associates Pty Ltd undertook geotechnical and land contamination investigations to determine the suitability of the Proposal site for the construction and operation activities to address the SEARs relating to geology, soils and contamination for the EIS.

It was determined that the greatest risk to geology and soils onsite would be during the construction phase of the Proposal when significant ground disturbance will be required to level and raise the site, while temporary stockpiling, and construction of internal roads and structures would also expose soils, creating the risk of erosion and sedimentation.

The large area of disturbance required at the site and timeframe of construction for the Proposal means that, if not appropriately managed, there is a high potential for erosion from the Proposal site. As discussed above, construction would be undertaken in accordance with the SWMP and ESCPs that would prescribe appropriate measures to prevent and manage erosion and sedimentation.

Excavations onsite during construction of the Proposal are not anticipated to intrude upon the water table. Construction works, with the exception of the OSD channels, are unlikely to expose acid sulphate soils or areas of potential acid sulphate soils given the bounds of the construction footprint. Construction within areas of close vicinity to the Georges River would be carried out in accordance with an Acid Sulfate Soils Management Plan.

Once constructed, the operation of the Proposal would have minimal impact on soils as the site would be stabilised with suitable materials. Stabilisation would include fill materials, hardstand areas, railway ballast and landscaping, which would significantly reduce the risk of on-site erosion.

The *Moorebank Intermodal Terminal Contamination Summary Report* (Golder, 2016b) provides a summary of the known contamination risks on the Proposal site identified in previous investigations, noting that the majority of contamination remediation would be undertaken during Early Works. The report also provides a discussion of possible contamination risks and remediation options for the Proposal.

It is noted that unexpected impacts or structures may exist within the Proposal site that may be potential sources of contamination or be indicators of contamination. Should these be encountered during construction, the unexpected finds protocol would be implemented.

The following section outlines how the various contamination aspects identified or potentially present on the Proposal site could impact on human health and/or the environment during construction, and how they would be managed.

Asbestos in or on soils

Bonded Asbestos containing material (ACM) fragments have been identified in the former sewerage treatment plant and golf course stockpile (present within demolition waste) and are considered the primary asbestos impact across the shallow soils. There is also potential for redundant utilities constructed of ACM to be present across the site. The ACM within these areas is expected to consist of bonded asbestos and non-bonded asbestos. There is a low risk to human health impacts should this material become exposed during site preparation works. Direct remediation activities in accordance with relevant documentation forming the Remediation Action Plan (RAP) would be undertaken at these sites.

Remnant UXO, EO or EOW

During construction of the Proposal there is potential to encounter remnant unexploded ordnance (UXO), exploded ordnance (EO) or explosive ordnance waste (EOW) items. Based on the investigations completed to date, the bulk of the UXO, EO and EOW identified on the site is expected to be small individual items such as fired, and unfired small arms ammunition (SAA) blank training items, and fired and unfired flares / smoke grenades (including grenade levers and other components). These items are not anticipated to pose a significant risk to the environment or to human health with implementation of appropriate measures during the site's construction and operations.

Anthropogenic fill deposits

Anthropogenic fill deposits (buried waste deposits) have been identified at a number of locations across the Proposal site. This material may be geotechnically unsuitable and based on investigations to date, pose a low contamination risk to worker health. Due to ACM being evident within topsoil across the Proposal site and the variable nature of anthropogenic fill sites, mitigation measures are prescribed to minimise the human health risks associated with direct contact exposure to ACM material.

Trichloroethylene (TCE)

TCE contamination has been detected in groundwater and soil vapour through previous reports in a localised area in the north-western corner of the Proposal site. It is anticipated that this area will remain an open space/riparian zone, in which case the long-term health risks were assessed as low, as workers would only temporarily access the area while constructing the OSDs for the Proposal.

Perfluoroalkyl and polyfluoroalkyl substances (PFAS)

Based on the PFAS concentrations identified in the groundwater on the site, and the evidence presented in the current literature on the bioaccumulation risks associated with PFAS, there is a risk that a complete exposure pathway exists between the PFAS source areas identified on the site and ecological receptors within the Georges River.

In turn this presents a plausible pathway for human health exposure through the potential consumption of fish caught within the impacted area via recreational fishing. Monitoring of groundwater, sediment and surface water will be undertaken, along with a risk assessment in accordance with relevant guidelines to determine the extent of the contamination issue present on the Proposal site and, if required, prescribe remediation/management measures.

As noted in Section 4 of this RtS, discussions with the Accredited Site Auditor regarding PFAS continuing and it is anticipated that this work will result in the development of a PFAS management plan. Areas identified to contain PFAS have been isolated as an exclusion zone until such time that the PFAS management plan is developed and accepted by the Accredited Site Auditor.

Impact Assessment – Amended Proposal

Construction

A summary of the key findings of the further soil and contamination assessment, from a construction perspective, are provided in Table 7-40. The assessment concludes that construction soils and contamination impacts associated with the Amended Proposal would be consistent with the EIS.

Table 7-40: Summary of the construction soil and contamination assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter the construction activities required for the Proposal, and therefore would not change the assessment soils and contamination impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	The proposed drainage works would not significantly change construction activities, result in additional exposure pathways to existing contamination or involve additional potentially contaminating activities. Potential construction phase soils and contamination impacts would be consistent with those described in the EIS and therefore no further assessment is considered necessary in relation to this amendment.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not increase the area of site disturbance, change construction activities, would not result in additional exposure pathways to existing contamination and would not involve additional potentially contaminating activities. No further assessment is considered necessary in relation to this amendment.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area would not alter the construction activities required for the Proposal, and therefore would not alter the assessment soils and contamination impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.

Amendment	Assessment
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Implementation of the ultimate layout for the Moorebank Avenue/Anzac Road intersection would involve some increase the area of site disturbance but would not change construction activities, result in additional exposure pathways to existing contamination or involve additional potentially contaminating activities. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not increase the area of site disturbance, change construction activities, result in additional exposure pathways to existing contamination or involve additional potentially contaminating activities. Potential construction phase soils and contamination impacts would be consistent with those described in the EIS and therefore no further assessment is considered necessary in relation to this amendment.

Operation

Consistent with the EIS, the operation of the Amended Proposal would have minimal impact on soils as the site would be stabilised with suitable materials. Stabilisation would include fill materials, hardstand areas, railway ballast and landscaping, which would significantly reduce the risk of on-site erosion.

Once operational, the Proposal site would be remediated to a level which is considered suitable for the operation of the Amended Proposal. As a result, there would be a low risk to workers or the environment from contaminated soil and groundwater.

The use of oils, fuels, lubricants and other chemical substances and hazardous materials during operation would be in accordance with the procedures in the OEMP for the Proposal site.

Mitigation measures

Construction

This assessment concludes that the Amended Proposal would result in construction phase soils and contamination impacts generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 13.4.1 and Section 13.4.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the Amended Proposal would result in operation phase soils and contamination impacts generally consistent with those already identified and assessed as part of the EIS. There would be no additional exceedances of impact assessment criteria for the Amended Proposal.

The mitigation measures outlined in Section 13.4.1 and Section 13.4.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.8 Hazards and Risks

MPW Stage 2 Proposal

A Preliminary Risk Screening in accordance with SEPP 33 for the EIS has been undertaken. Hazards and risks associated with the Proposal may arise from a number of activities including remediation works (remaining after Early Works), rail and road logistics, storage of hazardous materials, refuelling, waste disposal and equipment maintenance. Key hazards and risks associated with the Proposal include presence of contamination on site (including asbestos), loss of containment of flammable/combustible or corrosive liquids, fire and explosion, vehicle movements and machinery use, dangerous goods storage and transport and gas leaks.

Dangerous goods have been explicitly excluded from the types of freight that the Proposal would handle (i.e. they would not be accepted), and would therefore also be excluded from the Proposal's warehouse, freight container storage and transit areas. Therefore, there is considered to be no risks from dangerous goods in freight, transit or storage and no assessment has been undertaken.

The IMT facility will also have an above ground mobile refuelling tank located adjacent to the proposed locomotive shifter. The contained tank would store diesel fuel (class C1 combustible liquid), with a maximum capacity of approximately 60,000 litres.

Key mitigation strategies for management of hazard and risk include:

- A CEMP, including an Incident Response Plan and Spill Management Procedure, would be developed to minimise the likelihood of an incident occurring
- Prior to commencement of construction, an Asbestos Management Plan will be developed for the Proposal, in accordance with *Code of Practice How to Manage and Control of Asbestos in the Workplace* (WorkCover NSW, 2011)
- Emergency response and incident management protocols for operation of the Proposal would be developed collaboratively with the terminal operator in consultation with the NSW police force, NSW Fire Brigade, NSW Rural Fire Service and the Ambulance Service of NSW as appropriate. These would be prepared prior to operation of the Proposal.

Impact Assessment – Amended Proposal

Construction

A summary of the key findings of the further hazards and risks assessment, from a construction perspective, are provided in *Table 7-41*. The assessment concludes that construction stage hazards and risks associated with the Amended Proposal would be consistent with the EIS.

Table 7-41: Summary of the construction hazards and risks assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter the construction activities required for the Proposal, and therefore would not change the assessment of construction stage hazards and risks included in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	The proposed drainage works would not significantly change the required construction works. Potential construction stage hazards and risks associated with this amendment would be consistent with those described in the EIS and therefore no further assessment is considered necessary in relation to this amendment.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not alter the construction activities required for the Proposal, and therefore would not change the required construction works, methods or program. Potential construction stage hazards and risks associated with this amendment would be consistent with those presented in the EIS and no further assessment is considered necessary.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area would not alter the construction activities required for the Proposal, and therefore would not alter the construction stage hazards and risks included in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction stage hazards and risks included in the EIS. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction stage hazards and risks included in the EIS. No further assessment is considered necessary in relation to this amendment.

Operation

A summary of the key findings of the further hazards and risks assessment, from an operational perspective, are provided in Table 7-42. The assessment concludes that operation stage hazards and risks associated with the Amended Proposal would be consistent with the EIS.

Table 7-42: Summary of the operational hazards and risks assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not result in any changes to the operational hazards and risks presented in the EIS and therefore no further assessment is necessary in relation to this amendment.
Drainage works	The proposed drainage works would not result in any changes to the operational hazards and risks presented in the EIS and

Amendment	Assessment
	therefore no further assessment is necessary in relation this this amendment.
Container wash-down facilities and de-gassing areas	<p>The use of the proposed container wash down facility would not result in any changes to the operational hazards and risks presented in the EIS and therefore no further assessment of that component is required.</p> <p>During the operation of the Proposal site there will be a requirement to conduct fumigation in relation to targeted products or products from places deemed high risk by Australian Government Department of Agriculture and Water Resources. This would involve the use of methyl bromide.</p> <p>Exposure to methyl bromide represents a risk to human health, however, the proposed de-gassing and recapture system for fumigation would use carbon filtration to control emissions of methyl bromide. Fugitive emissions from de-gassing and fumigation are not expected.</p>
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not result in any changes to the operational hazards and risks presented in the EIS and therefore no further assessment is necessary in relation this this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Implementation of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not result in any changes to the operational hazards and risks presented in the EIS and therefore no further assessment is necessary in relation this this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not result in any changes to the operational hazards and risks presented in the EIS and therefore no further assessment is necessary in relation this this amendment

Mitigation measures

Construction

This assessment concludes that the Amended Proposal would result in construction phase hazards and risks considerations generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 14.5.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the Amended Proposal would result in operation phase hazards and risks considerations generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 14.5.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.9 Visual Amenity

MPW Stage 2 Proposal

Reid Campbell has undertaken an assessment of the visual amenity implications, including from light spill, associated with the Proposal. A Landscape Plan has been prepared by Groundlink to identify the landscaping features of the Proposal. In addition to this a Visual Impact Assessment (VIA) (Reid Campbell, 2016), Light Spill Assessment (Arcadis, 2016), and light spill assessment of locomotive operations, included in the Rail Access Report (AECOM, 2016), have been prepared to assess the potential visual and light spill impacts of the Proposal for the EIS.

The extensive native bushland areas, Department of Defence facilities on neighbouring lands, the MPE site and the general pattern of industrial type development surrounding the Proposal site screen it from much of the greater sensitive surrounding areas, which are primarily residential. Furthermore, landscape and urban design features, would further screen the Proposal as well as integrate the Proposal with surrounding land uses, minimising the visual impact.

The construction phase of the Proposal includes a number of temporary structures, including ancillary facilities, batching plant, offices, workshop etc, which would have short term and temporary impacts on the surrounding streetscape. These temporary structures are likely to be visible from areas such as Moorebank Avenue, the nearby passenger rail lines and potentially nearby residential areas of Casula, Glenfield and Wattle Grove. Any visual impacts would be localised and temporary in nature. Notwithstanding this a number of actions would be considered during the construction of the Proposal to further reduce the visual impacts on the surrounding area.

Lighting would be required during construction of the Proposal within ancillary facilities, and on plant and equipment. The impacts of light spill during construction are expected to be minor as it would be localised and temporary in nature. In addition, this lighting would be designed and located to minimise the effects of light spill on surrounding sensitive receivers, including residential areas and the proposed conservation area.

The Proposal would generally be in keeping with the existing character of the area. Some relatively high and/or bulky structures/equipment may however increase the visibility of the Proposal site beyond its current levels, with some limited and highly localised visual impacts. Potential views would occur along viewing corridors created by Moorebank Avenue and where topography provides some elevation above potential obstructions to views, such as from Casula to the west.

Overall, the Proposal is in keeping with the surrounding land uses and any impacts would be effectively minimised through the use of landscaping and urban design, the maximum anticipated visual impact at any view point would be Moderate. The proposed landscape and built form treatments would result in an improvement in the visual amenity of the entire site and would increase the current level of screening of the site. Urban design and planning principles assist with the breakdown of the bulk and scale of the development and contribute to the creation of one cohesive landscape.

In addition, the Proposal would result in minimal effect on adjacent properties and on the environment through the appropriate selection of light source, luminaire, luminaire mounting height and luminaire aiming for operational lighting.

Impact Assessment – Amended Proposal

Further visual assessment has been conducted in relation to the Amended Proposal and this has included an Addendum Impact Assessment - Visual Impact Assessment,

prepared by Arcadis (refer to Appendix I of this RfS). The main findings of the further assessment are summarised below.

Construction

A summary of the key findings of the further visual impact assessment, from a construction perspective, are provided in Table 7-43.

Table 7-43: Summary of the construction visual impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operation would not alter the construction activities required for the Proposal, and therefore would not change the assessment of construction stage visual impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	The proposed drainage works would result in only minor changes to the construction works than are not likely to result in visual impacts. No further assessment is considered necessary in relation to this amendment.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not alter the construction activities required for the Proposal, and therefore would not change the assessment of construction stage visual impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the construction activities required for the Proposal, and therefore would not change the assessment of construction stage visual impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would not significantly alter the construction activities required for the Proposal and therefore would not substantially change the assessment of construction stage visual impacts included in the EIS. Construction at the Moorebank Avenue/Anzac Road intersection would be about three months longer and therefore the visual effect of construction works at this location would be experienced over a longer period, however, as a significant change to visual impacts is not expected, no further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction visual impacts included in the EIS. No further assessment is considered necessary in relation to this amendment.

Operation

A summary of the key findings of the further visual impact assessment, from an operational perspective, are provided in Table 7-44 to Table 7-47.

Table 7-44: Summary of the operational visual impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	<p>Revised hours for warehousing operation would extend the period of activity in the warehousing area for a further six hours per day. At night, this would result in an increase in the number transitory light sources such as the headlights of forklifts and trucks. Impacts of transitory lighting would be minimal because beams would be fixed and aimed downwards, while loading and unloading activities would occur well away from the site boundary. Transitory light sources would also be insignificant in the context of the fixed permanent site-wide lighting that has been required from the outset to maintain safe operations.</p> <p>Extending the hours of warehousing operation would not significantly change the operation of road, car park and container yard lighting, which was previously assumed to be 24 hours.</p> <p>Consistent with the findings of the EIS, minimal light spill effect on adjacent properties can be achieved through lighting design, luminaire selection, positioning and aiming to produce results that are well within the requirements of AS 4282 - 1997 <i>Control of the obtrusive effects of outdoor lighting</i>.</p>
Stormwater drainage works – ABB site	<p>The Addendum Visual Impact Assessment included in Appendix I of this RtS concludes there would be no impact to surrounding receivers associated with:</p> <ul style="list-style-type: none"> • Additional covered drain within easement • Resizing of OSD basins • Relocation of an OSD (Basin 3) • Reduction to the widths of selected OSD outlet channels <p>Further assessment has been undertaken in relation to the inclusion of the OSD (Basin 10) along the eastern boundary of the operational area, adjacent to the western verge of Moorebank Avenue. This recognises the location of Basin 10 close to receivers and publicly accessible areas.</p>
Container wash-down facilities and de-gassing areas	<p>The addition of a container wash-down facility and de-gassing area as part of the Amended Proposal would affect the built form within the Proposal site. Further assessment has been provided below.</p>
Illuminated backlit signage	<p>The proposed illuminated backlit signage has the potential to affect surrounding areas. Further assessment has been provided below.</p>
Upgraded layout for Moorebank Avenue/Anzac Road intersection	<p>Implementation of the upgraded layout for Moorebank Avenue / Anzac Road intersection would have a larger footprint, but a form and visual elements consistent with those considered by the EIS. Further assessment is not considered necessary.</p>
Adjustments to warehouse layouts	<p>The revised warehouse layouts would affect the built form within the Proposal site. Further assessment has been provided below.</p>

Assessment of affected viewpoints

The key amendments would result in potential visual impacts at the following viewpoints considered in *Table 7-45* to

Table 7-45: Operational visual impacts – Viewpoint 07

Aspect	Comment / Assessment
Viewing location	North-east of site, junction of M5 Motorway and Moorebank Avenue, looking south
Potential key amendments viewed from this location	Container washdown and de-gassing facility
Approximate viewing distance	60m to site boundary (approx.)
Prominence of the Development	This viewpoint as considered in the EIS, looks south down Moorebank Avenue showing existing industrial facilities to the east and industrially zoned land to the west. The road is lined with large trees on either side that provide some screening of the Proposal site. The primary areas for access and egress to the proposed development would be visible from this location.
Landscape Compatibility	The addition of new industrial elements to this area would be compatible with this landscape as identified in the EIS. The addition of a container washdown and de-gassing facility would not further detract from the landscape compatibility, maintaining a moderate visual adaptation, as determined in the EIS.
Visual Sensitivity	<p>The existing industrial land-use would suggest a low visual sensitivity in this location.</p> <p>A sensitive receiver identified as Kitchener House, a heritage item, sits in the immediate foreground of this view location. This receiver is however, currently in a primarily industrial area and as such visual sensitivity for the location would remain low as determined previously, with the heritage item remaining relatively unaffected.</p> <p>As means of mitigation, implementation of strong urban design principles as part of the proposed landscape strategy would help to improve the existing landscape treatment of the area.</p>
Visual Impact	<p>EIS Assessment:</p> <p>The assessment of this view along Moorebank Avenue undertaken as part of the EIS determined that the overall development of the Proposal would be prominent from this location and would have a low to moderate visual impact.</p> <p>Amended Proposal Assessment:</p> <p>From this location, the addition of the container washdown and de-gassing facility as part of the Amended Proposal is unlikely to be visible from surrounding receivers and would not alter the visual impact as determined in the EIS. The visual impact of the Amended Proposal would therefore remain the same, that is, low to moderate.</p>



Figure 7-6 View 07 existing view



Figure 7-7 View 07 simulated view

Moorebank Precinct West

Table 7-46: Operational visual impacts – Viewpoint 08

Aspect	Comment / Assessment
Viewing location	West of the site on Moorebank Avenue looking south west
Potential key amendments viewed from this location	Inclusion of the OSD (Basin 10) along the eastern site boundary
Approximate viewing distance	20m to site boundary (approx.)
Prominence of the Development	<p>As identified in the EIS, this portion of Moorebank Avenue consists of industrial facilities on either side of the road.</p> <p>The proposed development would be highly prominent from this location with relatively unobstructed views of the Proposal site. At this location, sections of the Rail Link connection would be visible in the middle ground with the primary container yard in the background.</p> <p>The addition of the OSD (Basin 10) along the eastern site boundary would be visible in the foreground.</p>
Landscape Compatibility	<p>From this viewpoint, the proposed development would have a high impact on this existing landscape amenity, as it would require clearance of most existing vegetation.</p> <p>At this location, operational equipment and container yards would likely be of a larger scale than most elements in the immediate foreground and so would be visible.</p> <p>The EIS proposes a landscape buffer zone of varying width to help break down the prominence of any built form as part of the development. The addition of an OSD in the Amended Proposal would not detract further from the landscape compatibility and would still contribute to breaking down the prominence of the proposed development in bulk and scale.</p>
Visual Sensitivity	The industrial land-use and brevity in duration for which observers in the area (driving by) are exposed creates a low visual sensitivity in general along the Moorebank Avenue corridor. This viewpoint would therefore continue to have a low visual sensitivity as determined in the EIS.
Visual Impact	<p>EIS Assessment:</p> <p>The assessment of this view along Moorebank Avenue undertaken as part of the EIS determined that the overall development would be prominent from this location with a moderate visual impact achieved.</p> <p>Amended Proposal Assessment:</p> <p>As the land-use surrounding this viewpoint is primarily industrial, this location does not qualify as having a high visual amenity. As such, the addition of an OSD along the eastern boundary of the Proposal site; although visible, does not alter the visual impact as determined in the EIS. The visual impact of the Amended Proposal would therefore remain the same, that is, moderate.</p>



Figure 7-8 View 08 existing view



Figure 7-9 View 08 simulated view

Adjustments to warehouse layouts

The provision of an adjusted warehouse layout as part of the Amended Proposal would not result in significant changes to the visual amenity of the nearby sensitive receivers already assessed as part of the EIS.

Urban design concepts presented in the EIS have been maintained to ensure the break down of bulk and scale with adherence to the site's height limits for industrial development and would mean adjustments to warehousing layouts would not have any further implication to visual impacts as determined previously. Further, the Revised Stormwater and Drainage Design Drawings (refer to Appendix H of this RtS) contain updated sections that support this conclusion.

For these reasons the visual impact of the key amendments at these viewpoints would be relatively unchanged as illustrated in Table 7-47 below, which identifies consistency with the visual impacts assessed for the Proposal in the EIS.

Table 7-47: Operational visual impacts – Viewpoint 08

View	Area	Type	Visual Adaptation	Visual Sensitivity	Visual Impact EIS VIA	Visual Impact Amended Proposal
View 01	Casula	Public Space	Low	Low/Moderate	Low/Moderate	Low / Moderate
View 02	Casula	Public Space	Low/Moderate	Moderate	Moderate	Moderate
View 03	Casula	Public Space	Moderate	Moderate	Moderate	Moderate
View 04	Casula	Public Space	Low	Moderate	Low/Moderate	Low / Moderate
View 05	Casula	Public Space	Negligible	Low/Moderate	Negligible	Negligible
View 06	Casula	Residential	Low	Moderate	Low/Moderate	Low / Moderate

Illuminated backlit signage

As detailed in the Light Spill Assessment included in the EIS, when assessing the obtrusive lighting effects on neighbouring properties the calculations considered high output LED fittings mounted to 15-30 metre poles. Results from the obtrusive lighting analysis show zero effect on neighbouring properties. Therefore, it can be assessed that illuminated backlit signage, which have a much lower output, would not have any effect on the neighbouring properties and would not alter the obtrusive lighting results included in the EIS VIA.

Mitigation measures

Construction

This assessment concludes that the Amended Proposal would result in construction phase visual impacts generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 15.5.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the Amended Proposal would result in operation phase visual impacts generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 15.5.2 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.10 Indigenous Heritage

MPW Stage 2 Proposal

Artefact prepared an Aboriginal Heritage Impact Assessment to determine the potential impacts of the Proposal on Indigenous heritage significance for the EIS.

The construction of the Proposal would result in direct impacts to MA6, MA7, MA10, MA14, MPW Stage 2 Terrace PAD and the Tertiary Terrace (refer to Figure 16-1 in the EIS). No impacts to Indigenous heritage were identified for the operational phase of the Proposal.

Further, five other sites are located near the Proposal site. MA11, MA12, MA13 and MAPAD2 are located on the western side of the Georges River and MA8 is located within the conservation area adjacent to the Proposal site (refer to Figure 16-1 in the EIS). There would be no impacts to these sites as a result of the Proposal.

Mitigation measures proposed include the relocation of the scar portions of both scar trees (MA6 and MA7), the salvage excavation of the other four items/areas on the Proposal site and the implementation of an unexpected find procedure.

Impact Assessment – Amended Proposal

A summary of the key findings of the further Indigenous heritage impact assessment, from are provided in Table 7-48. The assessment found that construction stage Indigenous heritage impacts associated with the Amended Proposal would be consistent with the EIS. There would be no impacts to Indigenous heritage during the operation phase.

Table 7-48: Summary of the Indigenous heritage impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operations would not result in any change to the Indigenous heritage impact assessment presented in the EIS. No further assessment in relation to this amendment is required.
Drainage works	This amendment I would not result in any change to the Indigenous heritage impact assessment undertaken for the EIS. No further assessment in relation to this amendment is required.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not result in any change to the Indigenous heritage impact assessment presented in the EIS. No further assessment in relation to this amendment is required.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area would not result in any change to the Indigenous heritage impact assessment presented in the EIS. No further assessment in relation to this amendment is required.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	There are no listed Indigenous heritage sites or areas of archaeological potential/sensitivity within the footprint of the proposed ultimate layout of the Moorebank Avenue/Anzac Road intersection. No further assessment in relation to this amendment is required.
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not result in any change to the Indigenous heritage impact assessment undertaken for the EIS. No further assessment in relation to this amendment is required.

Mitigation measures

The Amended Proposal would not result in additional impacts to Indigenous heritage from those identified within the EIS. The mitigation measures outlined in Section 16.4.1 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.11 Non-Indigenous Heritage

MPW Stage 2 Proposal

Artefact prepared a Non-Indigenous Heritage Impact Assessment to determine the potential impacts of the Proposal on non-Indigenous heritage for the EIS.

The assessment identified one on-site item (the Moorebank Cultural Landscape) and three surrounding items (Kitchener House, Glenfield Farm and Casula Power Station) that would be impacted by the Proposal. No direct impacts during construction or operation are anticipated at the three surrounding items, however, there is the potential for indirect impacts (i.e. noise and visual impacts). These indirect impacts are considered within the Noise and Vibration Impact Assessment and Visual Amenity, Urban Design and Landscape Report prepared for the EIS.

Regarding the Moorebank Cultural Landscape, it was determined that the net impact generated by the Proposal (during construction and operation) would be likely to result in disturbance to archaeological deposits, removal of landscape elements, partial loss of the existing landscape setting, historical associations and the landscape’s research potential. The retention of portions of bushland vegetation and some cultural heritage values would assist in preserving the existing cultural values of the Moorebank landscape, along with the archival recording of archaeological items disturbed as a result of the Proposal construction.

Additionally, the Unanticipated Discoveries Protocol would be followed in the event that historical items or relics or suspected burials are encountered during excavation works

Impact Assessment – Amended Proposal

A summary of the key findings of the further non-Indigenous heritage impact assessment is provided in Table 7-49. The assessment found that construction stage non-Indigenous heritage impacts associated with the Amended Proposal would be consistent with the EIS. There would be no impacts to non-Indigenous heritage during the operation phase.

Table 7-49: Summary of the construction non-Indigenous heritage impact assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operations would not result in any change to the non-Indigenous heritage impact assessment undertaken for the EIS. No further assessment in relation to this amendment is required.
Drainage works	The proposed drainage works would not result in any change to the non-Indigenous heritage impact assessment undertaken for the EIS. No further assessment in relation to this amendment is required.
Container wash-down facilities and de-gassing areas	The inclusion of container wash-down and de-gassing areas would not result in any change to the non-Indigenous heritage impact assessment undertaken for the EIS. No further assessment is required.

Amendment	Assessment
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area would not result in any change to the non-Indigenous heritage impact assessment undertaken for the EIS. No further assessment is required.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	<p>The upgraded layout for the Moorebank Avenue/Anzac Road intersection has the potential to result in impacts to a number of non-Indigenous heritage items including:</p> <ul style="list-style-type: none"> • The School of Military Engineering • The Moorebank Cultural Landscape • Areas of archaeological potential (MHPAD 1 and MHPAD 2) <p>However, impacts to these items have been assessed and approved under the MPW Concept Approval. There would be no additional impacts to these items as a result of this amendment.</p>
Adjustments to warehouse layouts	Adjustments to warehouse layouts would not result in any change to the non-Indigenous heritage impact assessment undertaken for the EIS. No further assessment in relation to this amendment is required.

Mitigation measures

The proposal amendments would have no additional impacts to those assessed within the MPW Concept Approval and the EIS. The mitigation measures outlined in MPW Concept Approval and Section 17.5 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.12 Greenhouse Gas

MPW Stage 2 Proposal

A review of direct and indirect greenhouse gas (GHG) emissions was prepared by Arcadis, which assessed the impacts on greenhouse gas emissions from the construction and operation of the Proposal for the EIS. The construction and operation of the Proposal would result in the generation of GHG emissions.

The total GHG emissions associated with the construction of the Proposal are expected to be 32,724 tonnes of carbon dioxide equivalents (tCO₂-e) during the 36 month construction period. Carbon sequestration loss due to vegetation removal comprises 64% of the emissions, with bulk earthworks, drainage and utilities works contributing 16% of the emissions.

The total GHG emissions associated with the operation of the Proposal include 11,511 tCO₂-e per year (Scope 1 emissions) and 45,101 tCO₂-e per year (Scope 2 emissions), equating to 56,612 tCO₂-e per year total emissions.

The total annual emissions of the Proposal amount to approximately 0.01% of Australia's total annual GHG emissions (525.2.6 Mt CO₂-e) and 0.07% of Australia's total transport emissions (92.9 Mt CO₂-e). Accordingly, the contribution of the Proposal to Australia's GHG emissions is not considered to be significant, in terms of both the construction and operational phases of the Proposal.

Furthermore, the Proposal would have a net reduction in transportation emissions generated by transportation of freight through the use of rail to transport freight, which is more efficient than by road. The net reduction in GHG emissions from the change in freight distribution would be a saving of 1,472 tCO₂-e/year.

Mitigation strategies have been identified to reduce the emissions associated with the construction and operational phases of the Proposal. The implementation of these mitigation measures would further reduce GHG for the Proposal.

Impact Assessment – Amended Proposal

Construction

A summary of the key findings of the further greenhouse gas assessment, from a construction perspective, are provided in Table 7-50. The assessment concludes that Construction greenhouse gas emissions associated with the Amended Proposal would be consistent with the EIS.

Table 7-50: Summary of the construction greenhouse gas assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	Revised hours for warehousing operations would not alter the construction activities required for the Proposal, and therefore would not alter the assessment of construction greenhouse gas emissions included in the EIS. No further assessment is considered necessary in relation to this amendment.
Drainage works	<p>The proposed construction works, methods or program required for the drainage works would be generally consistent with those identified and assessed in the EIS. Further, the number and types of plant and equipment would remain largely the same.</p> <p>There would be an overall reduction in vegetation clearing associated with the Amended Proposal and accordingly there would be no increase in the 20,811 tCO₂-e vegetation carbon sequestration loss identified by the EIS.</p> <p>In this context, no changes to the construction greenhouse gas emissions reported in the EIS are expected and no further assessment is considered necessary.</p>
Container wash-down facilities and de-gassing areas	<p>The inclusion of container wash-down and de-gassing areas would not alter the construction activities required for the Proposal, and therefore would not significantly change the required construction works, methods or program considered.</p> <p>In this context, no changes to the construction greenhouse gas emissions reported in the EIS are expected and no further assessment is considered necessary.</p>
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not alter the construction activities required for the Proposal, and therefore would not alter the construction greenhouse gas emissions reported in the EIS. No further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the upgraded layout for Moorebank Avenue/Anzac Road intersection would have a longer construction period but would not substantially alter the construction activities required for the Proposal. There would not be a substantial change in the construction greenhouse gas emissions reported in the EIS. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehouse layout	Adjustments to warehouse layouts would not substantially alter the construction activities required for the Proposal, and therefore would not alter construction greenhouse gas emissions reported in the EIS. No further assessment is considered necessary in relation to this amendment.

Operation

A summary of the key findings of the further greenhouse gas assessment, from an operational perspective, are provided in Table 7-51. The assessment concludes that operational greenhouse gas emissions associated with the Amended Proposal would be consistent with the EIS.

Table 7-51: Summary of the operational greenhouse gas assessment for the amendments to the Proposal

Amendment	Assessment
Hours of warehousing operations	The greenhouse gas calculations included in EIS assumed the 24-hour operation of the warehouses. The EIS therefore covers this aspect of the Amended Proposal and no further assessment is considered necessary.
Stormwater drainage works – ABB site	The proposed drainage works would not result in changes to the operational traffic movements or other emissions sources assessed in the EIS. Maintenance of the proposed drainage infrastructure would be required during the operation of the Proposal, however, this would be infrequent and any additional vehicles travelling to the MPW site would be negligible. No further assessment is considered necessary in relation to this amendment.
Container wash-down facilities and de-gassing areas	The use of the proposed container wash down facility and de-gassing areas would not significantly change energy consumption and/or fuel use and would therefore not significantly alter the greenhouse gas emission estimates presented in the EIS. No further assessment is considered necessary in relation to this amendment.
Illuminated backlit signage	Changes to the scale of illuminated signage within the warehousing area during operation would not significantly change energy consumption and/or fuel use and therefore would not significantly alter the greenhouse gas emission estimates presented in the EIS. Therefore, no further assessment is considered necessary in relation to this amendment.
Upgraded layout for Moorebank Avenue/Anzac Road intersection	Construction of the ultimate layout for Moorebank Avenue would not significantly change energy consumption and/or fuel use and would therefore would not significantly alter the greenhouse gas emission estimates presented in the EIS. No further assessment is considered necessary in relation to this amendment.
Adjustments to warehousing layout	Changes layout of warehousing would not significantly change energy consumption and/or fuel use and would therefore would not significantly alter the greenhouse gas emission estimates presented in the EIS. No further assessment is considered necessary in relation to this amendment.

Mitigation measures

Construction

This assessment concludes that the Amended Proposal would result in construction phase greenhouse gas emissions generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 18.6 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

Operation

This assessment concludes that the Amended Proposal would result in operation phase greenhouse gas emissions generally consistent with those already identified and assessed as part of the EIS.

The mitigation measures outlined in Section 18.6 of the EIS are considered adequate to address impacts associated with the Amended Proposal and additional measures are not proposed.

7.1.13 Other issues

MPW Stage 2 Proposal

The EIS includes an assessment of the Proposal having regard to the other environmental issues identified in the SEARs and those that, although not identified in the SEARs, were considered relevant to the construction and operation of the Proposal.

Waste

An assessment of waste to be generated and disposed of during construction and operation for the Proposal was undertaken by Arcadis. The waste impacts of the construction and operation of the Proposal were assessed as minor with any impacts readily addressed through the proposed mitigation measures to be included in the CEMP and OEMP for the Proposal.

It was noted that the construction phase of the Proposal would involve clearing, earthworks, drainage works and the construction of infrastructure, which would generate waste in the form of Virgin Excavated Natural Material and Excavated Natural Material (VENM and ENM) excess building and packaging materials, concrete, asphalt and vegetation. During operation, waste would be generated through offices, lunch rooms, workshops, de-stuffing and packing containers and maintenance activities.

Bushfire

Australian Bushfire Protection Planners Pty Ltd (ABPP) prepared a bushfire protection assessment for the Proposal. The assessment noted that the Dry Sclerophyll Forest vegetation, to the east and south of the Proposal site, and the vegetation west of the Proposal site located within the riparian corridor, present potential bushfire threat to the Proposal.

The bushfire threat to the fixed assets during construction was assessed as low with proposed construction compounds, site office locations and construction parking areas to be located outside vegetated and bushfire prone areas.

The operation of the Proposal was assessed as consistent with the objectives of *Planning for Bushfire Protection 2006*, in that it provides:

- Separation distances between fixed assets and bushfire prone vegetation exceed the required defendable space widths
- Safe operational access and egress for emergency services personnel and residents is available
- Ongoing management and maintenance measures for bushfire protection
- Utility services that meet the needs of firefighters.

The bushfire threat to rail sidings was also assessed to be low, although a risk that ignition of adjoining bushfire may occur from sparks given off by rail cars was

identified. The need to maintain the width of the Rail link connection in a low fuel state, as required, was identified with protocols developed for the monitoring of train access/egress during high – catastrophic fire weather days.

Property and Infrastructure

AECOM prepared a Rail Access Report to provide details on the alignment of the Rail link connection and operational procedures for the IMT facility. AECOM also prepared a Utilities Strategy Report to identify the service demand requirements for the Proposal, and the impacts of the Proposal on existing utilities and infrastructure.

Investigations identified that the Proposal site would require connection to potable water, sewer, electricity and communications, all of which are near the site and can service the estimated demands of the Proposal either with augmentation or in their current condition.

Property and land use changes associated with the Proposal were also reviewed and the following was noted:

- Permanent land use change for most the MPW site, from a Defence site to an IMT facility with associated warehousing.
- Establishment of part of the MPW site as a biodiversity offset site (on the eastern bank of the Georges River) which would be consistent with the current use
- Establishment of OSDs with drainage channels which would replace existing land uses including bushland.
- No change to the current landownership of Moorebank Avenue, Anzac Road and Bapaume Roads and continuation of their use as publicly accessible roads.
- Implementation of a Biodiversity Offset Strategy, which includes the Hourglass land on the western side of the Georges River and the Bootlands to the south-east of the Proposal site as offsets, retaining their current bushland use.

Ecologically Sustainable Development

An assessment of the Proposals' consistency with the principles of Ecologically Sustainable Development (ESD) has been undertaken. Key findings in relation to the four main elements of ESD were as follows:

- *Precautionary principle* - The technical specialist studies provided a detailed analysis of both the construction and operational phases of the Proposal, to consider the environmental impacts, having regard to the precautionary principle. Subject to the implementation of mitigation measures, these specialist studies did not identify any issues that may cause serious and irreversible environmental damage due to the Proposal.
- *Intergenerational equity* - The design of the Proposal has incorporated the principle of intergenerational equity by ensuring that the IMT can be constructed and operated without significant on-going impacts on the surrounding community and future generations.
- *Conservation of biological diversity and ecological integrity* - The Proposal would result in the clearing of threatened ecological communities, threatened species and their habitat; however, most this vegetation/habitat is made up of small, highly fragmented and disturbed patches of vegetation. A proposed conservation area, up to 250 m wide, located adjacent to the Georges River running along the western boundary of the Proposal site, has been selected to maintain higher native vegetation values than those areas proposed for clearing, while maintaining fauna connectivity and a buffer for the protection of soil stability, water quality and aquatic habitats.

- *Improved valuation, pricing and incentive mechanisms* – The implementation of mitigation measures and biodiversity offsets represents a capital and or operational cost for the Proposal, acting as a valuation in economic terms of environmental resources.

Socio-economic

A socio-economic investigation was undertaken for the Proposal by Arcadis. The assessment found that construction impacts and benefits that would affect the socio-economic environment would be temporary and include the employment of a construction workforce, changes to noise and visual amenity, air quality and changes to traffic transport and access arrangements.

Impact Assessment – Amended Proposal

Construction

Table 7-52 provides an assessment for the construction of the Amended Proposal in relation to the other environmental issues that were identified in Chapter 20 of the EIS, specifically waste, bushfire, property / infrastructure, ecologically sustainable development and socio-economic impacts.

Table 7-52: Summary of the other issues for the Amended Proposal - Construction

Issue	Environmental assessment of Amended Proposal
Waste	The amendments to the Proposal would not change the construction waste streams identified in Table 20-2 of the EIS or significantly alter the estimated waste quantities identified in Table 20-3. No further assessment is considered necessary.
Bushfire	The amendments to the Proposal would not involve a change to the location and/or number of fixed assets (construction compounds). Consequently, the bushfire threat to the fixed assets during construction would remain low as identified in the EIS.
Property and Infrastructure	<p>Consistent with the EIS, the construction of the Amended Proposal would facilitate a change in land use of the MPW site from Defence uses to an IMT facility. There would be no change in property ownership.</p> <p>Impacts on surrounding land uses relating to traffic and transport, noise and vibration, air quality and visual amenity are considered above in Sections 7.1.1, 7.1.2, 7.1.3 and 7.1.9 respectively.</p> <p>Consistent with the findings of the EIS, there is likely to be some temporary impacts on surrounding utilities during construction, however these would be avoided where possible, and if unavoidable would be for short duration.</p> <p>As potential impacts on property and infrastructure would be consistent with the EIS, further assessment in is not considered necessary.</p>
Ecologically Sustainable Development	<p>The Amended Proposal can be constructed without serious and irreversible environmental damage and without significant on-going impacts on the surrounding community and future generations. Refer to Section 7.1.1 to 7.1.12 of this RtS.</p> <p>Consistent with the EIS, the implementation of mitigation measures and biodiversity offsets represents a capital and or operational cost for the Amended Proposal, acting as a valuation in economic terms of environmental resources</p>

Issue	Environmental assessment of Amended Proposal
Socio Economic	Consistent with the EIS, construction impacts and benefits associated with the Amended Proposal that would affect the socio-economic environment would be temporary and would include the employment of a construction workforce, changes to noise and visual amenity, air quality and changes to traffic transport and access arrangements. No further assessment is considered necessary.

Operation

Table 7-53 provides an assessment for the construction of the Amended Proposal in relation to the other environmental issues that were identified in Chapter 20 of the EIS, specifically waste, bushfire, property / infrastructure, ecologically sustainable development and socio-economic impacts.

Table 7-53: Summary of the other issues for the Amended Proposal - Operation

Issue	Environmental assessment of Amended Proposal
Waste	The amendments to the Proposal would not change the operational waste streams identified in Table 20-4 of the EIS or significantly alter the estimated waste quantities identified in Table 20-5. No further assessment is considered necessary.
Bushfire	<p>The Amended Proposal would comply with the objectives of <i>Planning for Bushfire Protection 2006</i> (NSW Rural Fire Service), specifically:</p> <ul style="list-style-type: none"> • Separation between the fixed assets and the bushfire prone vegetation would be similar (IMT facility – 100 m, Warehousing area – 25 m), would exceed required defensible space widths and would address the address the risk of flame contact, high levels of radiant heat and ember attack. • The internal road network and Moorebank Avenue would continue to provide safe operational access/egress for emergency service personnel and occupants of the facility. • Landscaping, including that associated with the OSD along the eastern boundary of the MPW site would be maintained to reduce the combustible ground fuels (leaf litter, bark and twigs). • Consistent with the EIS, Defendable Space located between the warehousing area and the conservation zone would be maintained as an Inner Protection Area and managed to the standards as required by <i>Planning for Bushfire Protection 2006</i> and the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'. • Consistent with the EIS, an onsite firefighting water supply would be installed to comply with A.S. 2419.1 - 2005, providing a satisfactory firefighting water supply to the complex.
Property and Infrastructure	Consistent with EIS, the Amended Proposal would not change the current landownership of the MPW site, but would result in a permanent land use change to most the MPW site, from a Defence site to an IMT facility with associated warehousing. Approval for subdivision in the Proposal is no longer sought as subdivision would be undertaken as part of future stages of the MPW Project.

Moorebank Precinct West

Issue	Environmental assessment of Amended Proposal
	<p>Impacts on surrounding lands have been considered in terms of traffic and transport, air quality, noise and vibration, human health and visual amenity and are generally consistent with those identified by the EIS. Refer to Sections 7.1.1, 7.1.2, 7.1.3 and 7.1.9 respectively.</p> <p>The amendments to the Proposal would not significantly alter demand for utilities / services and therefore as noted in the EIS, existing infrastructure would be suitable to service the Amended Proposal, either with augmentation or in their current condition.</p>
Ecologically Sustainable Development	<p>The Amended Proposal can be constructed without serious and irreversible environmental damage and without significant on-going impacts on the surrounding community and future generations. Refer to Section 7.1.1 to 7.1.12 of this RtS.</p> <p>Consistent with the EIS, the implementation of mitigation measures and biodiversity offsets represents a capital and or operational cost for the Amended Proposal, acting as a valuation in economic terms of environmental resources</p>
Socio Economic	<p>Consistent with the EIS, the Amended Proposal would have potential positive and negative socio-economic impacts associated during operation. Positive impacts (such as employment) are likely to be felt more at a regional level while the direct impacts (positive and negative) are likely to be experienced at the local level. Additional impacts attributable to the Amended Proposal are not expected.</p> <p>The OEMP would also include measures to engage with stakeholders and to manage and respond to feedback received during operation of the Amended Proposal.</p>

8 REVISED COMPILATION OF MITIGATION MEASURES

The EIS identified a range of environmental impacts and recommended management and mitigation measures to avoid, remedy or mitigate these impacts (refer to Section 22 of the EIS).

These mitigation measures have been revised in response to the following:

- Submissions received during the public exhibition period
- To address the amendments to the Proposal
- To incorporate additional mitigation measures from the MPW Concept RtS where necessary.

For ease of reference, words proposed to be deleted are shown in ~~***bold italic strike through***~~ and words to be inserted are shown in ***underlined bold italics***. These revised mitigation measures represent the final Compilation of Mitigation Measures for the Amended Proposal and are provided in Table 8-1.

Pre-construction activities for the Amended Proposal would be undertaken in the areas shown in Figure 8-1 and is relevant to mitigation measure No. 0A only (refer to Table 8-1).

The construction and operational activities included within the Amended Proposal have been separated into components based on their functional relationship and include the following:

- IMT – IMT and associated development including, but not limited to, container handling and storage, truck access, processing and holding areas, rail sidings and associated infrastructure, administration area and ancillary components (container washdown and de-gassing area and main site road and roundabout.
- Rail link connection – including, but not limited to, the rail sidings and access tracks.
- Warehousing – including, but not limited to, warehousing and attached offices, container storage areas, car parking, truck loading/unloading areas and vehicle manoeuvring, access roads and the freight village.
- Moorebank Avenue intersection -including, but not limited to, Moorebank Avenue/Anzac Road and Moorebank Avenue/Bapaume Road intersection works.
- Site infrastructure – including but not limited to, construction works such as tree clearing, earthworks, construction and operation of the perimeter road, east west channel, OSDs, utilities.

Figure 8-2 and Figure 8-3, outlines these components of the Amended Proposal provided in Table 8-1.

The 'implementation stage' column of Table 8-1 indicates the timing as to when the specific mitigation measures would be implemented. For example, a CEMP might be prepared prior to construction, but would not be 'implemented' until the construction phase.

For this Compilation of Mitigations Measures, the following definitions apply to the terms used in the implementation phase column:

- Detailed design - works and design progression prior to construction of the associated permanent physical works for the Amended Proposal
- Pre-construction phase – initial stage of physical works for the Amended Proposal, which are not included within the definition of construction and within Works period A

- Construction phase – during construction of all permanent physical works for the Proposal (Works periods B - G)
- Operation phase - either prior to, or during, operation of the Amended Proposal.



Figure 8-1 Pre-construction activities

Moorebank Precinct West



Figure 8-2 Site infrastructure

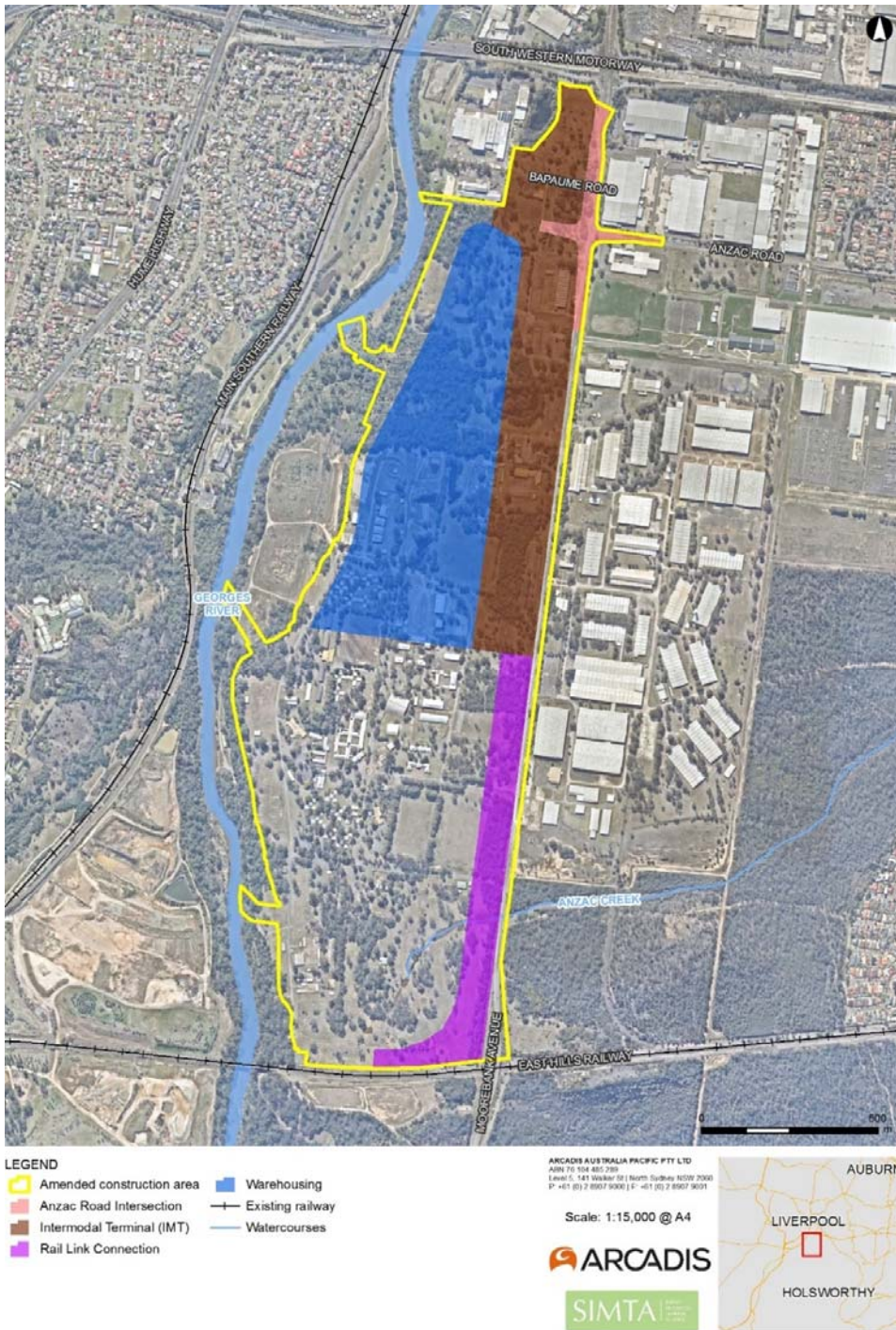


Figure 8-3 Key operational components

Table 8-1 Revised table of Mitigation Measures

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
0.	General environmental management						
0A	<p>Pre-construction works would be undertaken subject to the preparation of an Environmental Work Method Statement (EWMS) or equivalent. Pre-construction works include the following:</p> <ul style="list-style-type: none"> • survey; acquisitions; or building/ road dilapidation surveys; fencing; investigative drilling, excavation or salvage • minor clearing or translocation of native vegetation that does not comprise any EECs • establishment of site compounds and construction facilities • installation of environmental mitigation measures • utilities adjustment and relocation that do not present a significant risk to the environment, as determined by the Environmental Representative • other activities determined by the Environmental Representative to have minimal environmental impact • All works as described in Works period A in section 4 of this EIS 	Pre-Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
0B	The Construction Environmental Management Plan (CEMP), or equivalent, for the Proposal would be based on the PCEMP (Appendix I of this EIS), and include the following preliminary management plans:	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> • Preliminary Construction Traffic Management Plan (PCTMP) (Appendix M of the EIS) • Air Quality Management Plan (Appendix O of the EIS) • Erosion and Sediment Control Plans (ESCPs) and Bulk Earthworks Plans, within the Stormwater Drainage Design Drawings (Appendix R of the EIS) <p>As a minimum, the CEMP would include the following sub-plans:</p> <ul style="list-style-type: none"> • Construction Traffic Management Plan (CTMP) • Construction Noise and Vibration Management Plan (CNVMP), prepared in accordance with the <i>Interim Construction Noise Guideline</i> • Cultural Heritage Assessment Report/Management Plan • Construction Air Quality Management Plan • Construction Soil and Water Management Plan (SWMP), prepared in accordance with <i>Managing Urban Stormwater</i>, 4th Edition, Volume 1, (2004). • Erosion and Sediment Control Plan • Flood Emergency Response and Evacuation Plan • UXO, EO, and EOW Management Plan • Acid Sulfate Soils Management Plan • Bushfire Management Strategy 						

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Community Information and Awareness Strategy. <u>Flora and Fauna Management Plan (FFMP)</u> <u>Groundwater Monitoring Program (GMP)</u> 						
0C	<p>The Operational Environmental Management Plan (OEMP), or equivalent, for the Proposal would be based on the following preliminary management plans</p> <ul style="list-style-type: none"> Preliminary Operational Traffic Management Plan (POTMP) (Appendix M of the EIS) Air Quality Management Plan (Appendix O of the EIS) Erosion and Sediment Control Plans (ESCPs) and Bulk Earthworks Plans, within the Stormwater Drainage Design Drawings (Appendix R of the EIS) <p>As a minimum, the OEMP would include the following sub-plans</p> <ul style="list-style-type: none"> Operational Traffic Management Plan (OTMP) Operational Noise and Vibration Management plan (ONVMP) Air Quality Management Plan Flooding and Emergency Response Plan (FERP) Groundwater Monitoring Program Long term Environmental Management Plan (LTEMP) 	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> • <u><i>Pollution Incident Response Management Plan (PIRMP), including Spill Management Procedure, prepared under the EPA's Environmental Guidelines: Preparation of Pollution Incident Response Management Plans (EPA, 2012)</i></u> • <i>Incident Response Plan, including a Spill Management Procedure.</i> • Fire Safety and Evacuation Plan • Community Information and Awareness Strategy. • <u><i>Flora and Fauna Management Plan</i></u> • <u><i>Emergency Vehicle Response Plan</i></u> 						
0D	The construction and/or operation of the Proposal may be delivered in a number of stages. If construction and/or operation is to be delivered in stages a Staging Report would be provided to the Secretary prior to commencement of the initial stage of construction and updated prior to the commencement of each stage as that stage is identified.	Construction and operation	Y	Y	Y	<u>Y</u>	<u>Y</u>
1.	Traffic and Transport						
1A	A Construction Traffic Management Plan (CTMP) would be prepared based on the Preliminary Construction Traffic Management Plan (Appendix M of the EIS), detailing management controls to be implemented to avoid or minimise impacts to traffic, pedestrian and	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<p>cyclist access, and the amenity of the surrounding environment. The following key initiatives would be included in the CTMP:</p> <ul style="list-style-type: none"> • Review of speed restrictions along Moorebank Avenue and additional signposting of speed limitations • Restriction of haulage routes through signage and education to ensure, where possible, that construction vehicles do not travel through nearby residential areas to access the Proposal site, in particular Moorebank (Anzac Road) or the Wattle Grove residential areas • Inform local residents (in conjunction with the Community Information and Awareness Strategy) of the proposed construction activities and road access restrictions that the construction traffic must adhere to and establish communication protocols for community feedback on issues relating to construction vehicle driver behaviour and construction related matters • Installation of specific warning signs at entrances to the construction area to warn existing road users of entering and exiting construction traffic • Establishing pedestrian walking routes and crossing points • Distribution of day warning notices to advise local road users of scheduled construction activities • Installation of appropriate traffic control and warning signs for areas identified where potential safety risk issues exist 						

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> The promotion of car-pooling for construction staff and other shared transport initiatives during the pre-construction phase <u>Facilitating emergency vehicle access to the site</u> Management of the transportation of materials to maximise vehicle loads and therefore minimise vehicle movements Minimising the volumes of construction vehicles travelling during peak periods Maintaining access to neighbouring properties, in particular the ABB site Monitoring of traffic on Moorebank Avenue during peak construction periods to ensure that queuing at intersections does not unreasonably impact on other road users. 						
1B	A Road Safety Audit would be undertaken on Cambridge Avenue to identify potential traffic safety risks from the Proposal (in consideration of background traffic) and determine appropriate mitigation.	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
1C	Moorebank Avenue/Anzac Road/Proposal site intersection would be upgraded to include a four leg intersection as shown in Appendix G of the EIS. The funding of this intersection upgrade would be clarified through discussions with SIMTA and Roads and Maritime.	Operation	Y	Y	Y	<u>Y</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
1D	<p>The Operational Traffic Management Plan would be prepared based on the Preliminary Operational Traffic Management Plan (Appendix M of the EIS) and include the following key initiatives:</p> <ul style="list-style-type: none"> • Heavy vehicle route management • Safety and amenity of road users and public • Congestion management on Moorebank Avenue • Road user delay management • Information signage, distance information and advance warning systems • Driver code of conduct • Incident management • Traffic monitoring. 	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>
1E	Consultation with TfNSW would be conducted regarding the provision for active transport to/from the Proposal site and along the internal perimeter road, as part of detailed design for the Proposal.	Operation	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>
1F	Bicycle and end of trip facilities would be provided in accordance with the <i>City of Sydney Section 3 – General Provisions</i> .	Operation	Y	<u>N</u>	Y	<u>N</u>	<u>N</u>
1G	Consultation would be undertaken with relevant bus provider(s) regarding the potential to extend the 901 bus service (or equivalent)	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	and additional bus stops with the aim of maximising public transport accessibility to and within the Proposal site.						
1H	<u>Importation of fill to site during construction of the Proposal is to not exceed a total of 22,000 m³ of material per day. This limit is to be further reduced by an amount equivalent to any fill being imported to the MPE Stage 2 Proposal (SSD 7628) on the same day such that the combined importation of fill to the Proposal site and MPE site does not exceed 22,000 m³ on any given day.</u>	<u>Construction</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
1I	<u>During operation, emergency vehicle access would be managed through an Emergency Vehicle Response Plan developed for the Proposal.</u>	<u>Operation</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>Y</u>
2.	Noise and Vibration						
2A	A Construction Noise and Vibration Management Plan (CNVMP), or equivalent, would be prepared for the Proposal in accordance with the <i>Interim Construction Noise Guideline</i> (or equivalent), and would give consideration to Revised Environmental Mitigation Measures (REMMs) 5A – 5B (of the MPW Concept Approval (SSD 5066)).	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
2B	The ambient noise monitoring surveys undertaken within Casula, Wattle Grove and Glenfield would be continued throughout the construction and operation of the Proposal (with annual reporting of noise results up to two years beyond the completion of the Proposal).	Construction and operation	Y	Y	Y	<u>Y</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
2C	In the event of any noise or vibration related complaint or adverse comment from the community, noise and ground vibration levels would be investigated. Remedial action would be implemented where feasible and reasonable.	Construction and operation	Y	Y	Y	<u>Y</u>	<u>Y</u>
2D	A noise wall would be installed along a portion of the western boundary of the Proposal site in the general location identified in Figure 7-1 of the Noise Impact Assessment (Appendix N of the EIS). The height, extent, and staged implementation of the noise wall would be confirmed, based on further noise modelling undertaken during detailed design.	Operation	Y	N	Y	<u>N</u>	<u>Y</u>
2E	Best practice noise mitigation measures would be implemented for the operational phase of the Proposal including: <ul style="list-style-type: none"> Noise monitoring (refer to mitigation measures 2B and 2C above) A gate appointment system would be implemented to minimise truck loading/unloading wait times and resultant queueing. Trucks would be turned away from facility if arriving too early Truck marshalling lanes would be included to minimise congestion and queueing The provision of information signs and communication of MPW idle reduction policy. 	Operation	Y	Y	Y	<u>N</u>	<u>N</u>
2F	<u>Management of vibration impacts to Kitchener House.</u>	Construction	Y	N	N	<u>Y</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<i><u>In the event that plant items to be used for construction identified in Table 12 of the Noise Technical Memorandum (refer to Appendix D of this RtS) are proposed to be operated within their respective “Cosmetic Damage” safe working distances from Kitchener House, then attended vibration monitoring would be conducted at Kitchener House to verify that the ‘safe’ vibration level is not exceeded. If exceedances are approached, the work should cease immediately, and alternative construction methods should be used.</u></i>						
3.	Air Quality						
3A	A Construction Air Quality Management Plan would be prepared based on the Air Quality Management Plan (Appendix O of the EIS) and include the following key initiatives: <ul style="list-style-type: none"> • Procedures for controlling/managing dust • Roles, responsibilities and reporting requirements • Contingency measures for dust control where standard measures are deemed ineffective. 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
3B	Vehicle movements would be limited to designated entries and exits, haulage routes and parking areas.	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
3C	Best practice air quality mitigation measures would be implemented for the operational phase of the Proposal including: Locomotives	Operation	Y	Y	N	<u>N</u>	<u>N</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Ensure locomotives are well maintained in accordance with the manufacturer's specification or relevant operational plan. Update maintenance plans to include a requirement to consider air emissions and where possible improve air emission performance at next overhaul/upgrade (for SIMTA operational fleet) Ultra Low Emitting Switch Locomotives would be considered during the procurement process, having regard to technical, logistical and financial considerations Anti-idle policy and communication / training for locomotive operators Unnecessary idling avoided through driver training and site anti-idle policy Driver training for fuel efficiency. 						
	<p>Container Handling</p> <ul style="list-style-type: none"> New reach stackers to achieve emissions performance equivalent to US EPA Tier 3 / Euro Stage IIIA standards Unnecessary idling avoided through driver training and site anti-idle policy Equipment with smoky exhausts (more than 10 seconds) should be stood down for maintenance. 		Y	N	N	<u>N</u>	<u>N</u>
	<p>Trucks</p>		Y	Y	Y	<u>N</u>	<u>N</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Gate appointment system, truck marshalling lanes and rejection of trucks that arrive early to minimise wait times and queuing Development of an anti-idle policy and communication through the provision of information signs Unnecessary idling avoided through driver training and site anti-idle policy Loading and unloading coordinated to minimise truck trip distances as they travel through site. 						
3F	<p>The <i>Air Quality Management Plan</i> (Appendix O of the EIS), would be further progressed and incorporated into the OEMP for the Proposal. In accordance with the AQMP the following key aspects would be addressed in the OEMP:</p> <ul style="list-style-type: none"> Implementation and communication of anti-idling policy for trucks and locomotives Complaints line for the community to report on excessive idling and smoky vehicles Procedures to reject excessively smoky trucks visiting the site based on visual inspection. 	Operation	Y	Y	Y	<u>N</u>	<u>N</u>
4.	Biodiversity						
4A	Following detailed design and before construction, detailed flora and fauna mitigation measures would be developed and presented as	Construction	Y	Y	Y	<u>N</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<p>part of the CEMP. These detailed measures would incorporate the measures listed below.</p> <p>The CEMP would address:</p> <ul style="list-style-type: none"> • general impact mitigation • staff/contractor inductions • vegetation clearing protocols including identification of exclusion zones • pre-clearing surveys and fauna salvage/translocation • rehabilitation and restitution of adjoining habitat • weed control • pest management • monitoring. <p>The CEMP would include clear objectives and actions for the Proposal including how to:</p> <ul style="list-style-type: none"> • minimise human interferences to flora and fauna • minimise vegetation clearing/disturbance • minimise impact to threatened species and communities • minimise impacts to aquatic habitats and species • undertake flora and fauna monitoring at regular intervals. 						

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
4B	Vegetation clearing would be restricted to the construction footprint with sensitive areas, outside of this footprint, clearly identified as vegetation exclusion zones.	Pre-construction and Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
4C	The vegetation exclusion zones would be marked on maps, which would be prepared by the contractor/s, and would also be marked on the ground using high visibility fencing (such as barrier mesh).	Pre-construction and Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
4D	A suitably qualified ecologist would accompany clearing crews to ensure disturbance is minimised and to assist in relocating any native fauna to adjacent habitat.	Construction	Y	Y	Y	<u>N</u>	<u>Y</u>
4E	<p>The following procedures would be implemented to minimise fauna impacts from vegetation clearance:</p> <ul style="list-style-type: none"> • A staged habitat removal process would be developed and would include the identification and marking of all habitat trees in the area • Where reasonable and feasible, clearing of hollow-bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow-bearing tree dependent birds in the locality are also unlikely to be breeding • Pre-clearing surveys would be conducted 12 to 48 hours before vegetation clearing to search for native wildlife (e.g. reptiles, frogs, Cumberland Land Snail) that can be captured and 	Construction	Y	Y	Y	<u>N</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<p>relocated to the retained riparian vegetation of the Georges River corridor</p> <ul style="list-style-type: none"> Vegetation would be cleared from a 10 m radius around habitat trees to encourage animals roosting in hollows to leave the tree. A minimum 48 hour waiting period would allow animals to leave After the waiting period, standing habitat trees would be shaken (where safe and practicable) under the supervision of an ecologist to encourage animals roosting in hollows to leave the trees, which may then be felled, commencing with the most distant trees from secure habitat Felled habitat trees would either be immediately moved to the edge of retained vegetation, or left on the ground for a further 24 hours before being removed from the construction area, at the discretion of the supervising ecologist All contractors would have the contact numbers of wildlife rescue groups and would be instructed to coordinate with these groups in relation to any animal injured or orphaned during clearing. 						
4F	<p>Within areas of high quality intact native vegetation proposed to be removed:</p> <ul style="list-style-type: none"> Topsoil (and seedbank) would be collected from native vegetation that are to be permanently cleared and used in the revegetation of riparian areas 	Construction	Y	Y	Y	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Where feasible and reasonable native plants in areas that are to be permanently cleared would be relocated and transplanted in riparian areas identified for rehabilitation 						
4G	Relocation of fauna to adjacent retained habitat would be undertaken by a suitably qualified ecologist during the supervision of vegetation removal.	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
4H	<p>An ecologist would supervise the drainage of any waterbodies on the Proposal site and would relocate native fish (e.g. eels), tortoises and frogs to the edge of the Georges River and/or the existing pond at the northern end of the Proposal site.</p> <p><u>Native fish (e.g. eels) that are endemic to the Sydney area would be translocated from drained ponds/dams on the site to natural waterways and pest fish would be euthanised on ice. If non-endemic native species are encountered on site, DPI Fisheries would be consulted to determine the best location to translocate this species.</u></p>	Construction	Y	Y	Y	<u>N</u>	<u>Y</u>
4I	The design of temporary site fencing and any overhead powerlines would consider the potential for collision by birds and bats and minimise this risk where practicable.	Detailed design & Pre-construction, construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
4J	The potential for translocation of threatened plant species as individuals or as part of a soil translocation process would be	Detailed design, construction and construction	Y	Y	Y	<u>N</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	considered during the detailed development of the EWMS and CEMP.						
4K	Important habitat elements (e.g. large woody debris) would be moved from the construction area to locations within the conservation area which would not be cleared during the Proposal, or to stockpiles for later use in vegetation/habitat restoration.	Pre-construction and Construction	Y	Y	Y	<u>N</u>	<u>Y</u>
4L	Winter-flowering trees would be preferentially planted in landscaped areas of the Proposal site to provide a winter foraging resource for migratory and nomadic nectar-feeding birds and the Grey-headed Flying-fox.	Detailed design, Pre-construction and Construction	Y	Y	Y	<u>N</u>	<u>Y</u>
4M	Erosion and sediment control measures such as silt fencing and hay bales would be used to minimise sedimentation of streams and resultant impacts on aquatic habitats and water quality.	Pre-construction and Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
4N	Opportunities for planting of detention basins with native aquatic emergent plants and fringing trees would be explored in the detailed design of the Proposal and, if practicable, implemented so that they would provide similar habitat in the medium term to that lost through the removal of existing basins.	Detailed design and construction	Y	Y	<u>N</u>	<u>N</u>	<u>Y</u>
4O	The CEMP (or equivalent) would include detailed measures for minimising the risk of introducing weeds and pathogens for construction related vehicles and equipment.	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
4P	The CEMP and OEMP for the Proposal would consider and have reference to the weed removal and riparian vegetation restoration undertaken within parts of the Georges River corridor under the MPW Concept Approval (identified within the Biodiversity Offset Package for the MPW Project).	Construction and operation	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
4Q	The detailed design process would consider the potential groundwater impacts on groundwater-dependent ecosystems. In most cases, these impacts, if evident, would be mitigated at the design phase.	Detailed design and construction	Y	Y	Y	<u>N</u>	<u>Y</u>
4R	The OEMP would include a biodiversity monitoring program designed to detect operational impacts of the Georges River riparian corridor (within the offset site).	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>
4S	Ongoing monitoring of macroinvertebrate communities would be undertaken prior to, during and following construction upstream and downstream of the potential impacts at the proposed basin outlets in the Georges River and reference locations to assist in identifying any changes in aquatic communities.	Pre-construction, construction and operation	Y	Y	Y	<u>N</u>	<u>Y</u>
4T	The proposed stormwater basin outlets would be designed to minimise biodiversity impacts by incorporating native revegetation and fauna habitat features as far as possible.	Detailed design	Y	Y	Y	<u>N</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
4U	The native vegetation and connectivity values in the proposed basin outlets would be monitored to ensure that fauna passage is maintained.	Construction and operation	Y	Y	Y	<u>N</u>	<u>Y</u>
<u>4V</u>	<u><i>During operation, both threatened and non-threatened species of frogs and reptiles may be at risk of injury or mortality. Controls such as fencing would be put in place to keep land-based fauna away from the operating terminals.</i></u>	<u>Operation</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>Y</u>
<u>4W</u>	<u><i>A monitoring program would be developed and implemented to measure the performance of revegetation activities in the Georges River riparian zone and associated conservation area.</i></u>	<u>Construction and operation</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>Y</u>
5.	Stormwater and Flooding						
5A	<p>A Soil and Water Management Plan (SWMP) and Erosion and Sediment Control Plan (ESCP), or equivalent, would be prepared for the Proposal. The SWMP and ESCPs would be prepared in accordance with the principles and requirements of the <i>Blue Book</i> and based on the Preliminary ESCPs provided in the Stormwater and Flooding Assessment Report (refer to Appendix R of the EIS). The following aspects would be addressed within the SWMP and ESCPs:</p> <ul style="list-style-type: none"> • Minimise the area of soil disturbed and exposed to erosion • Priority should be given to management practices that minimise erosion, rather than to those that capture sediment downslope or at the catchment outlet 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Divert clean water around the construction site or control the flow of clean water at non-erodible velocities through the construction area Provision of boundary treatments around the perimeter of construction areas to minimise the migration of sediment offsite Permanent or temporary drainage works (in particular OSDs) would be installed as early as practical in the construction program to minimise uncontrolled drainage and associated erosion Stockpiles would be located away from flow paths on appropriate impermeable surfaces, to minimise potential sediment transportation. Where practicable, stockpiles would be stabilised if the exposed face of the stockpile is inactive more than ten days, and would be formed with sediment filters in place immediately downslope Disturbed land would be rehabilitated as soon practicable The wheels of all vehicles would be cleaned prior to exiting the construction site where excavation occurs to prevent the tracking of mud. Where this is not practical, or excessive soil transfer occurs onto paved areas, street cleaning would be undertaken when necessary. A requirement to inspect all permanent and temporary erosion and sedimentation control works prior to and post rainfall events and prior to closure of the construction area. Erosion and 						

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<p>sediment control structures must be cleaned, repaired and augmented as required.</p> <ul style="list-style-type: none"> Where required, sediment basins and their outlets would be designed to be stable in the peak flow from at least the 10-year ARI time of concentration event. Sediment basins should be sized to accommodate the 5 day, 80th percentile storm event, with sufficient size and capacity to manage Type F soils. Sediment basins must be regularly cleaned to maintain the design capacity. Prior to discharge from sediment basins, water would be tested for the following parameters to identify construction impacts: <ul style="list-style-type: none"> pH Turbidity / TSS Oil and grease. Sediment fences are to be provided around the perimeter of the site to ensure no untreated runoff leaves the site, and around the existing and proposed drainage channels to minimise sediment migration into waterways and sediment basins The following management measures would be implemented during works in and adjacent to Georges River to mitigate potential impacts on water quality during OSD channel construction: <ul style="list-style-type: none"> All reasonable efforts would be taken to program construction activities during periods when flood flows are not likely to occur 						

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> – The construction site, on completion of construction works, would be left in a condition that promotes native revegetation – The management principles outlined in Managing Urban Stormwater (Landcom 2004) for sites with high erosion potential would be implemented. 						
5B	Proposal site exits would be fitted with hardstand material, rumble grids or other appropriate measures to limit the amount of material transported offsite.	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
5C	<p>The following measures would be considered during the development of construction methodology for the Proposal to mitigate flooding impacts:</p> <ul style="list-style-type: none"> • For all site works, provide temporary diversion channels around temporary work obstructions to allow low and normal flows to safely bypass the work areas • Locate site compounds, stockpiling areas and storage areas for sensitive plant, equipment and hazardous materials above an appropriate design flood level, outside of the PMF extent at the northern section of the construction area, to be determined based on the duration of the construction work. 	Construction	N	N	Y	<u>Y</u>	<u>Y</u>
5D	To minimise potential flood impacts during construction of the Proposal, the following measures would be implemented and documented in the SWMP:	Construction	N	N	Y	<u>Y</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> The existing site catchment and sub-catchment boundaries would be maintained as far as practicable To the extent practicable, site imperviousness and grades should be limited to the extent of existing imperviousness and grades under existing development conditions Smaller detention storages that provide adequate rainfall runoff mitigation during partial construction/site development would be considered. Temporary structures used to convey on site run-off during construction would be designed to accommodate flows during prolonged or intense rainfalls. The existing stormwater conduit conveying flows from Moorebank Avenue to the Georges River would be assessed to ensure it is adequate to accommodate run-off from the construction area. 						
5E	A Flood Emergency Response and Evacuation Plan, or equivalent, would be prepared and implemented for the construction phase of the Proposal to allow work sites to be safely evacuated and secured in advance of flooding occurring at the Proposal site. <u>The plan would be prepared in consultation with the State Emergency Service.</u>	Construction	N	N	Y	<u>Y</u>	<u>Y</u>
5F	Stormwater quality improvement devices would be designed to meet the performance targets identified in the <i>Stormwater and Flooding Environmental Assessment</i> (Appendix R <u>of the EIS</u>), and civil design	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	drawings. Maintenance of the bio-retention structures would be in accordance with the maintenance requirements set out in Gold Coast City Council's <i>Water Sensitive Urban Design Guidelines 2007</i> and would be included in the OEMP.						
5G	Operational water quality monitoring is to be carried out and included in the OEMP with the objective of maintaining or improving existing water quality.	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>
5H	A Flood Emergency Response Plan (FERP) would be prepared and implemented for the operational phase of the Proposal. The FERP would take into consideration, site flooding and broader flood emergency response plans for the Georges River floodplains and Moorebank area. The FERP would also include the identification of an area of safe refuge within the Proposal site that would allow people to wait until hazardous flows have receded and safe evacuation is possible. <u>The FERP would be prepared in consultation with the State Emergency Service.</u>	Operation	Y	Y	Y	<u>Y</u>	<u>Y</u>
5I	<u>Stockpile sites established during construction are to be managed in accordance with stockpile management principles set out in Appendix L of this RtS.</u>	<u>Construction</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>N</u>	<u>Y</u>
6.	Geology, Soils and Land Contamination						
6A	The CEMP would identify the actions to be taken should additional contamination be identified during the development of the site (i.e. an	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	unexpected finds protocol), and will address REMM items 8H, 8T, 8U, 8V and 8W (of the MPW Concept Approval (SSD 5066)).						
6B	<p>A site specific Remediation Action Plan (RAP) is not considered to be required for the Proposal. The following documentation would be utilised for the purposes of remediating the site:</p> <ul style="list-style-type: none"> • The Preliminary Remediation Action Plan (PB, 2014a) • The Validation Plan – Principles (Golder, 2015b) • The Demolition and Remediation Specification (Golder 2015c) • Any other contamination documentation prepared for the remediation activities undertaken for MPW Early Works (Stage 1). 	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
6C	The CEMP would include the preparation of a site-wide UXO, EO, and EOW management plan (or equivalent) based on the UXO Risk Review and Management Plan (G-Tek, 2016). This plan would be implemented to address the discovery of UXO or EOW during construction, to ensure a safe environment for all staff, visitors and contractors.	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
6D	<p>An Asbestos in Soils Management Plan (AMP) is to be implemented as part of the CEMP in accordance with the Safe Work NSW requirements, including but not limited to:</p> <ul style="list-style-type: none"> • the Guidelines for Managing asbestos in or on soil (2014), and 	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Codes of Practice - How to Safely Remove Asbestos (2011) and How to Manage and Control Asbestos in the Workplace (2011). 						
6E	<p>An Acid Sulfate Soils Management Plan (or equivalent) would be prepared as part of the CEMP in accordance with the ASSMAC Assessment Guidelines (1998), for areas identified as being of low or high risk i.e. works within close vicinity of the Georges River (Figure 13-2 of this EIS).</p> <p>In addition, a risk assessment quantifying the risks associated with the volumes of soil to be disturbed, the laboratory results from ASS testing undertaken, the end use of the materials and the proximity to sensitive environments is to be undertaken.</p> <p>All offsite disposal would be in accordance with the NSW Waste Classification Guidelines Part 4: Acid Sulfate Soils (2009).</p>	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
6F	<p>The existing groundwater monitoring undertaken for the Proposal would continue. A groundwater monitoring program (GMP) would be developed at the conclusion of remediation activities for the Proposal and included as part a Long Term Environmental Management Plan (LTEMP) (to be prepared for approval by the Accredited Site Auditor and in association with the OEMP). The main purpose of the GMP would be to assist in the management of groundwater contamination (particularly PFAS impacts) at the site, and to minimise potential harm to human health and the environment. The GMP would achieve the following objectives:</p>	Pre-construction, construction and operation	Y	Y	Y	<u>N</u>	<u>Y</u>

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No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Establish whether the residual groundwater contamination plume is shrinking, stable, or increasing, and whether natural attenuation and/or migration is occurring according to expectations through line-of-evidence collection Provide appropriate groundwater investigation levels (GILs) for groundwater contaminants, in accordance with the <i>National Environment Protection (Assessment of Site Contamination) Measure 1999</i> (ASC NEPM). Should exceedances be identified, contingency plans for further investigations or remediation would be prepared. Provide appropriate trigger levels for key contaminants (where available), based on the receptor of interest and identified contaminants Serve as a compliance program, so that potential impacts to down-gradient receptors are identified before adverse effect occurs (relative to above objectives) Detect changes in environmental conditions (e.g. hydrogeologic, geochemical or other changes) that may reduce the efficacy of any natural attenuation processes or that could lead to a change in the nature of impact Establish groundwater conditions (i.e. concentrations and/or trends) which indicated that groundwater monitoring could be reduced or ceased and the requirements of the GMP absolved. <p>The monitoring program is to be undertaken for two years post operation of the Proposal to ensure a range of seasonal and river</p>						

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	flow variations is assessed. At the completion of the two year period, subject to analysis of results, consideration would be given to whether this monitoring is required to continue.						
6G	Findings within the Geotechnical Interpretive Report (Golder, 2016 – Appendix S of the EIS) regarding excavations, earthworks, pavements and structural footings are to be considered during detailed design.	Detailed design	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
6H	At the conclusion of remediation works, a Remediation and Validation Report (RVR) is to be prepared for the Proposal to facilitate the Auditor's review of remediation and validation activities. The RVR is to document the remediation and validation activities completed within specific areas of the Proposal, including: <ul style="list-style-type: none"> Information relating to the materials used in the separation layers such as the soil types, geotextile materials, and sealant types etc. (if required) An as-constructed plan of the site showing the locations, depths and materials of the separation layers installed at the site. 	Operation	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
6I	The existing site-wide Long-Term Environmental Management Plan (LTEMP), such as the one established at the completion of Early Works, is to be revised at the completion of the Proposal remediation activities to include protocols for ongoing maintenance and/or	Operation	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	monitoring or any long term remedial/mitigation measures to be implemented following completion of the Site Audit Statement.						
6J	<p><i>In order to accept fill material onto site, the following will be undertaken:</i></p> <ul style="list-style-type: none"> <i>Material characterisation reports/certification showing that the material being supplied is VENM/ENM must be provided.</i> <i>Each truck entry will be visually checked and documented to confirm that only approved materials that are consistent with the environmental approvals are allowed to enter the site. Only fully tarped loads are to be accepted by the gatekeeper. Environmental Assurance of imported fill material will be conducted to confirm that the materials comply with the NSW EPA Waste Classification Guidelines and the Earthworks Specification for the MPW site. The frequency of assurance testing will be as nominated by the Environmental assesor/auditor.</i> 	<u>Construction</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
6K	<i>The CEMP would include an Earthworks Specification, which would include details on earthworks material criteria, handling and placement requirements, embankment and cutting formation (including foundation, batter and benching requirements), unsuitable material and bridging layer requirements, conformance testing methods and acceptance criteria (e.g. for material acceptance and compaction control).</i>	<u>Construction</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
<u>6L</u>	<u><i>In areas where placement of fill would occur to final site levels, but hardstand and warehousing is not currently proposed, exposed surfaces would be stabilised using hydroseeding, or the application of a bitumen emulsion or a similar stabilisation method.</i></u>	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>
7. Hazard and risk							
7A	The following measures would be included in the CEMP (or equivalent) to minimise hazards and risks: <ul style="list-style-type: none"> • Procedures for safe removal of asbestos • Provision for safe operational access and egress for emergency service personnel and workers would be provided at all times • An Incident Response Plan that would include a Spill Management Procedure. 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
7B	To minimise the risk of leakages involving natural gas, LNG and flammable and combustible liquids to the atmosphere: <ul style="list-style-type: none"> • Appropriate standards for a gas reticulation network, including AS 2944-1 (2007) and AS 2944-2 (2007), would be applied • Correct schedule pipes would be used • Fire protection systems would be installed as required • Access to the Proposal site would be restricted to authorised personnel. 	Operation	Y	Y	Y	<u>N</u>	<u>N</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
7C	<p>To minimise the risks of leakage of LNG and flammable liquids during transport:</p> <ul style="list-style-type: none"> The transport of dangerous goods by road would comply with the <i>Dangerous Goods (Road and Rail Transport) Act 2008</i> and the <i>Dangerous Goods (Road and Rail Transport) Regulation 2014</i> Contractors delivering the gas would be trained, competent and certified by the relevant authorities. 	Operation	Y	Y	Y	<u>N</u>	<u>N</u>
7D	<p>To minimise hazards associated with venting of LNG:</p> <ul style="list-style-type: none"> LNG storage would be designed to AS/NZS 1596-2008 standards Access to the Proposal site would be restricted to authorised personnel Adequate separation distances to residencies and other assets would be maintained. 	Operation	Y	Y	Y	<u>N</u>	<u>N</u>
7E	Storage of flammable/combustible liquids would be undertaken in accordance with AS 1940, with secondary containment in place in a location away from drainage paths.	Operation	Y	Y	Y	<u>N</u>	<u>N</u>
7F	Intermodal terminal facility and warehousing staff involved in the transport and handling of dangerous goods would receive training in the contents of the dangerous goods provisions commensurate with their roles and responsibilities. Training is to be provided and records	Operation	Y	Y	Y	<u>N</u>	<u>N</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	maintained in accordance with the appropriate competent authority (WorkCover NSW).						
7G	The 190 KL of diesel fuel (combustible liquids of class C) would be stored on site in a separate 97 KL self-bunded container and would be stored away from other flammable materials of class 3PGI, II or III. The manifest threshold quantity under this circumstance is 100 KL for each tank. Refuelling of locomotives is likely to occur on the locomotive shifter, which would catch any spills during the refuelling process. Spill kits would be located in the vicinity of the refuelling location and staff would be trained in the use.	Operation	Y	N	N	<u>N</u>	<u>N</u>
8. Visual Amenity, urban design and landscape							
8A	<p>The following mitigation measures would be implemented, where reasonable and feasible, to minimise the visual impacts of the Proposal:</p> <ul style="list-style-type: none"> Existing vegetation around the perimeter of construction sites would be retained where feasible and reasonable The early implementation of landscape planting would be considered in order to provide visual screening during the construction of the Proposal 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> • Elements within construction sites would be located to minimise visual impacts as far as feasible and reasonable, e.g. setting back large equipment from site boundaries • Construction lighting, on both ancillary facilities and plant and equipment, would be designed and located to minimise the effects of light spill on surrounding sensitive receivers, including residential areas and the proposed conservation area • Design of site hoardings would consider the use of artwork or project information • Regular maintenance would be undertaken of site hoardings and perimeter areas including the prompt removal of graffiti • Re-vegetation/landscaping would be undertaken progressively • Where required for construction works, cut-off and directed lighting would be used and lighting location considered to ensure glare and light spill are minimised. 						
8B	<p>The following mitigation measures would be implemented, where reasonable and feasible, for the landscaping of the Proposal:</p> <ul style="list-style-type: none"> • Use of species that are local to the area • Use of trees to provide a uniform canopy cover within vegetated areas • Use of local species as understory planting to support and enhance local habitat values 	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Use of seeds collected within the local area for planting to reinforce the genetic integrity of the region, where possible. 						
8C	<p>The following initiatives would be implemented for mitigation of light spill:</p> <ul style="list-style-type: none"> Lighting would be designed to minimise impacts on surrounding existing and future residents and the proposed conservation zone The use of shields on luminaire lighting to minimise brightness effects would be considered Asymmetric light distribution-type floodlights would be selected as part of the proposed lighting design (i.e. the light is directed specifically to the task with minimal direct light spill to the surrounding area) Low reflection pavement surfaces would be considered to reduce brightness The quantity of light and energy consumption in parts of the Proposal site that are not active would be minimised, while retaining safe operation. 	Detailed design and operation	Y	Y	Y	<u>N</u>	<u>Y</u>
9. Indigenous Heritage							
9A	The scar portions of MA6 & MA7 would be removed by a qualified arborist and relocated to the TLALC property at Thirlmere, or a suitable area identified in consultation with Registered Aboriginal	Construction	N	N	<u>N</u>	<u>N</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	Parties (RAPs). The trees should be mounted and housed in a weather protected structure. All costs associated with the removal, relocation and housing of the trees would be covered by the Proponent. The relevant RAP would be responsible for the maintenance of the housing once established.						
9B	<p>Staged salvage excavation of selected areas should be conducted as part of the Proposal, in consultation with RAPs. These stages include:</p> <ul style="list-style-type: none"> Part 1 would involve dispersed pits placed along transects within the Terrace PAD and the tertiary terrace (between MA10 and MA14 – refer to Figure 16-2 of this EIS). Part 2 would involve open area salvage excavation, targeting the artefact concentrations identified by NOHC at MA10 and MA14, as well as any additional artefact concentrations identified during Part 1. 	Construction	N	N	<u>N</u>	<u>N</u>	<u>Y</u>
9C	Where changes are made to the Proposal and areas not assessed by this report or previous reports (NOHC 2014, NOHC Sept 2014, AHMS 2015) are to be impacted, further Aboriginal heritage investigation and consultation should take place.	Construction	Y	Y	<u>Y</u>	<u>Y</u>	<u>Y</u>
9D	An Aboriginal Cultural Heritage Assessment Report (ACHAR) (also known as a Cultural Heritage Management Plan) would be prepared	Construction	N	N	<u>N</u>	<u>N</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	as part of the CEMP for the Proposal and would outline ongoing management/ mitigation measures relating to MA6 and MA7.						
9E	An unexpected finds procedure would be included in the ACHAR and in place for the construction phase of the Proposal.	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>
9F	If suspected human remains are located during any stage of the construction works, work would stop immediately and the NSW Police and the Coroner's Office should be notified. The Office of Environment and Heritage, RAPs and an archaeologist would be contacted if the remains are found to be Aboriginal.	Construction	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>
9G	Consultation with RAPs would continue throughout the life of the Proposal, as necessary. Ongoing consultation with RAPs would take place throughout the reburial of retrieved artefacts and in the event of the discovery of any unexpected Aboriginal objects.	Pre-Construction, construction and operation	<u>N</u>	<u>N</u>	<u>N</u>	<u>Y</u>	<u>Y</u>
10.	Non-Indigenous Heritage						
10A	Naming of roads would consider previous School of Military Engineering (SME) street names.	Detailed Design	Y	Y	Y	<u>N</u>	<u>Y</u>
10B	Naming of buildings and roads (in addition to above) would consider commemoration of significant events and individuals related to the Moorebank Cultural Landscape.	Detailed Design	Y	Y	Y	<u>N</u>	<u>Y</u>
10C	An unexpected finds protocol (or equivalent) would be included within the CEMP. If unexpected finds are identified during works, a suitably	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	qualified archaeological consultant would be engaged to assess the significance of the finds and the NSW Heritage Council notified. In this instance, further archaeological work or recording may be required.						
11.	Greenhouse Gas						
11A	<p>The following mitigation measures would be implemented, where reasonable and feasible, for management of GHG emissions as part the operation of the Proposal:</p> <ul style="list-style-type: none"> • Energy efficiency design aspects would be incorporated wherever practicable to reduce energy demand • Fuel efficiency of the operation plant/equipment would be assessed prior to selection, and where practical, equipment with the highest fuel efficiency and which uses lower GHG intensive fuel (e.g. biodiesel) would be used • Energy-efficient guidelines for operational work would be considered and implemented where appropriate and regular maintenance of equipment would be undertaken to maintain fuel efficiency • Methods to reduce losses from industrial processes (refrigerants and SF6) would be investigated during detailed design • Consideration would be given to undertake further investigation and implementation of cost negative abatement opportunities 	Detailed design	Y	Y	Y	<u>N</u>	<u>N</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Investigate and, where possible, implement key performance indicators (KPIs) for plant efficiency and GHG intensity. <p>The mitigation measures, management strategies and abatement opportunities presented in this report would be reviewed and considered where appropriate for incorporation into the OEMP.</p>						
11B	<p>The following initiatives would be implemented, where reasonable and feasible, for mitigation of GHG emissions during construction:</p> <ul style="list-style-type: none"> Construction works would be planned to minimise double handling of materials Construction/transport plans would be incorporated within the CEMP to minimise the use of fuel during construction Fuel efficiency of the construction plant/equipment would be assessed prior to selection, and where practical, equipment with the highest fuel efficiency and which uses lower GHG intensive fuel (e.g. biodiesel) would be used On-site vehicles would be fitted with exhaust controls in accordance with the <i>Protection of the Environment Operations (Clean Air) Regulation 2010</i>, as required and appropriate. Regular maintenance of equipment would be undertaken to maintain good operations and fuel efficiency Where practicable, trucks removing waste from the site or bringing materials to the site would be filled to the maximum 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<p>amount allowable, depending on the truck size and load weight, to reduce the number of traffic movements required</p> <ul style="list-style-type: none"> The mitigation measures, management strategies and abatement opportunities (Section 18 of this EIS) would be reviewed and considered where appropriate for incorporation into the CEMP. 						
12.	Waste						
12A	<p>The following mitigation measures would be implemented as part of the CEMP (or equivalent) for waste management:</p> <ul style="list-style-type: none"> Characterisation of construction waste streams in accordance with the <i>NSW Waste Classification Guidelines</i> Management of any identified hazardous waste streams Procedures to manage construction waste streams, including handling, storage, classification, quantification, identification and tracking Mitigation measures for avoidance and minimisation of waste materials Procedures and targets for re-use and recycling of waste materials. 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>
12B	<p>The following mitigation measures would be implemented as part of the OEMP (or equivalent) for waste management:</p>	Detailed design <i>and operation</i>	Y	Y	Y	<u>N</u>	<u>N</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Addressing waste management requirements and goals in staff inductions Providing staff access to documentation outlining the facility's waste management requirements Locating recycling bins in kitchen areas beside general waste bins to prevent contamination of recycling Positioning paper recycling bins close to printer / photocopying equipment Establishing bays or containers for recyclable waste generated through de-stuffing Minimising general waste bins at desks but providing adequate container and paper recycling to encourage sorting of recyclables Providing adequate bin storage for the expected quantity of waste. Waste management planning incorporating principles of the waste hierarchy Selection of materials used in operations with recycled content, low embodied energy and durability Appropriate areas shall be provided for the storage of waste and recyclable material 						

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> Standard signage on how to use the waste management system and what materials are acceptable in the recycling would be posted in all waste collection and storage areas All waste shall be collected regularly and disposed of at licensed facilities An education programme and on-going monitoring for training personnel to properly sort and transport waste into the right components and destinations. 						
12C	Container disposal units would be provided in the area around the diesel re-fuelling station to dispose of used spills kits. These containers would be taken for disposal at an appropriately licensed facility.	Operation	<u>Y</u>	<u>N</u>	Y	<u>N</u>	<u>N</u>
13. Bushfire							
13A	<p>The following actions would be considered for implementation, where reasonable and feasible, for mitigation of bushfire risk during construction:</p> <ul style="list-style-type: none"> A bushfire management strategy, or equivalent, would be prepared as part of the CEMP for the construction phase. The strategy would include: <ul style="list-style-type: none"> Emergency response plans and procedures 	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	<ul style="list-style-type: none"> – All site offices and temporary buildings would have a minimum setback of 10 m to bushfire prone areas – All site offices would be accessible via access roads suitable for firefighting appliances similar to NSW Rural Fire Service category 1 tankers. 						
13B	<p>The following mitigation measures would be implemented during the operation of the Proposal:</p> <ul style="list-style-type: none"> • A bushfire management strategy, (including a fire safety and evacuation plan) or equivalent, would be prepared as part of the OEMP • Management of the landscaped areas within the Proposal site would be undertaken to maintain minimum dry fuels loads • The width, as required, of the Rail link connection would be maintained in a low fuel state • Protocols would be developed for the monitoring of train access/egress during high – catastrophic fire weather days, if required and in accordance with the bushfire management strategy. 	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>
14. Socio-economic							
14A	A community information and awareness strategy would be included in the CEMP and would outline measures to maintain communication	Construction	Y	Y	Y	<u>Y</u>	<u>Y</u>

Moorebank Precinct West

No.	Mitigation measures	Implementation stage	Applicability				
			IMT	Rail link connection	Warehousing	Moorebank Ave intersection	Site infrastructure
	with the community and all relevant stakeholders throughout the construction process of the Proposal.						
14B	The Operational Environmental Management Plan (OEMP) would include measures to engage with stakeholders and to manage and respond to feedback received during the operation of the Proposal.	Operation	Y	Y	Y	<u>N</u>	<u>Y</u>

9 CONCLUSION

SIMTA are seeking approval for the construction and operation of the Moorebank Precinct West (MPW) Stage 2 Proposal as amended, which will be the second stage of development under the MPW Concept Approval (SSD 5066).

This RtS has been prepared in accordance with clause 83 of the *Environmental Planning and Assessment Regulation 2000*, to address comments raised by both government agencies and the community during the public exhibition of the EIS, between 26 October 2016 and 25 November 2016. This RtS provides further information and justification for the Amended Proposal in order to, where possible, respond to and address the submissions received (refer to Sections 4 and 5 of this RtS).

Amendments have been made to address submissions received, reflect design development, and also to minimise the overall environmental impacts of the Amended Proposal where possible (refer to Sections 6 and 7 of this RtS).

The mitigation measures provided within the EIS (Chapter 22 of the EIS) have been updated to respond to the submissions received (refer to Section 8 of this RtS) and address the scope of the Amended Proposal. Overall, the assessment identifies that the Amended Proposal would, subject to the implementation of updated mitigation measures, result in environmental impacts that are generally consistent with those identified within the EIS.

9.1 Overview of submissions and consultation

During the public exhibition period of the Proposal, submissions were invited from all stakeholders including members of the community and government stakeholders. A total of 148 public submissions have been received from the community. A total of seven submissions have been received from government agencies and an additional seven submissions were received from special interest groups, including immediately surrounding land owners.

It should be noted, as demonstrated within Sections 3 and 5 of this RtS, that a large number of community submissions received were not directly relevant to the scope of the Proposal, but rather were submitted in relation to the overall MPW Project in general, i.e. related to the MPW Concept Approval (SSD 5066). Regardless, these submissions have been addressed in Sections 3 and 5 of this RtS.

The key issues which have been raised for the Proposal, by the community and government stakeholders (note that multiple issues may have been raised within a single submission), include:

- Traffic and transport (115 submissions)
- Air quality (60 submissions)
- Noise impacts (56 submissions)
- Community (38 submissions)
- Human health (36 submissions)
- Flora and fauna (35 submissions).

Government agencies raised similar concerns to that provided by the community. These submissions were collated, analysed and included within this RtS (refer to Section 4 and 5 of this RtS).

This RtS includes consideration of all comments raised by stakeholders and provides additional information, where necessary, to respond to and close out all concerns raised. Further, where necessary and suitable, the mitigation measures (previously

provided within Chapter 22 of the EIS) have been updated and included within this RtS (refer to Section 8 of this RtS).

9.2 Proposal Amendments

The Amended Proposal, the subject of this RtS, includes a number of amendments to the Proposal. A summary of the amendments as follows:

- Alignment of the operational hours for warehouses to the IMT facility and Port freight operations to enable freight movements outside of peak traffic times
- Drainage works:
 - Inclusion of the OSD (Basin 10) and relocation of another OSD (Basin 3) along the eastern boundary of the operational area, adjacent to the western verge of Moorebank Avenue
 - Re-sizing of OSD basins along the western boundary of the operational area
 - Reduction to the widths of selected OSD outlet channels
 - Provision of an additional covered drain within the Endeavour Energy easement
- Identification of container wash-down facilities and de-gassing area within the IMT facility
- Illuminated backlit signage within the warehousing area
- Inclusion of an upgraded layout for the Moorebank Avenue/Anzac Road intersection
- Adjustments to warehouse layouts.

The amendments are generally minor in nature and are generally consistent with the descriptions and assessments provided within the EIS (for construction and operation). A description of these changes has been provided within Section 6 of this RtS.

Additional environmental assessment has been undertaken, within Section 7 of this RtS, for each of the amendments to identify any impacts that differ from those assessed within the EIS and also provide an overall impact assessment. Supplementary technical specialist studies have been provided, as relevant, to further discuss the potential impacts of the Amended Proposal and are included as appendices to this RtS.

The assessment identifies that the Amended Proposal would, subject to the implementation of updated mitigation measures (refer to Section 8 of this RtS), result in environmental impacts that are generally consistent with those identified within the EIS.

9.3 Next steps

The DP&E will, on behalf of the NSW Minister for Planning, review the EIS and this RtS. Once the DP&E has completed its assessment, a draft assessment report will be prepared for the Secretary of the DP&E, which may include recommended conditions of approval.

The assessment report will then be provided to the Planning Assessment Commission (PAC) for consideration. The PAC would determine the Proposal, with any conditions considered appropriate.

The PAC's determination, including any conditions of approval and the Secretary's report, will be published on the DP&E's website immediately after determination, together with a copy of this RtS.

SIMTA is committed to continuing to consult with stakeholders, including the community throughout the planning of the Proposal and future stages of development. Further information on the Proposal is available on the Project website:

www.simta.com.au

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