

OPERATIONAL FLORA AND FAUNA MANAGEMENT PLAN

Moorebank Intermodal Precinct – East Precinct

12 DECEMBER 2024

ESR AUSTRALIA

Moorebank Intermodal Precinct – East Precinct

Operational Flora and Fauna Management Plan

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REVISIONS

Revision	Date	Description	Prepared by	Approved by
001	8/3/2019	Draft – for Client review	■	■
002	2/4/2019	Updated to address ER and Tactical Comments	■	■
003	24/4/2019	Final Draft addressing ER Comments	■	■
004	6/5/2019	Updated to address OEH comments for DPE submission	■	■
005	17/06/2019	Updated to address DPE comment	■	■
006	2/9/2019	Updates to address DotEE comments	■	■
007	05/02/2020	Updated to include Area 2 as an operational area	■	■
008	27/03/2020	Updated to address MOD 2	■	■
009	13/01/2023	Updated to include: <ul style="list-style-type: none"> • Warehouse layout changes • Traffic changes to access points to IMEX and PIWE • Mods 1,3, 4 to SSD 7628 • Changes to MLP East Precinct site management • Logo updated 	■	■
010	12/12/2024	Updated for: <ul style="list-style-type: none"> • Approval of Modification 5 and 6 • MIP name change • Ownership and template change 	■	■

ACRONYMS AND DEFINITIONS

Acronym / Term	Meaning
BC Act	<i>Biodiversity Conservation Act 2016</i>
CoC	Conditions of Consent
CoA	Commonwealth Conditions of Approval
DCCEEW	Department of Climate Change, Energy, the Environment and Water (formerly DotEE)
DotEE	Commonwealth Department of the Environment and Energy (now DCCEEW)
DPE	Department of Planning and Environment (formerly DPIE, Department of Planning, Industry and Environment)
DPHI	Department of Planning, Housing & Infrastructure (previously DPE)
DPI	Department of Primary Industries
EEC	Endangered Ecological Community
EIS	Environmental Impact Statement
EMS	Environmental Management System
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i>
Facility	The MIP East Precinct Project (as approved by MP10_0193, SSD 6766 (Stage 1) and SSD 7628 (Stage 2 as modified). The Facility includes the operation of the IMEX terminal, warehousing and distribution facilities. A rail link is included as part Stage 1 (SSD 6766) and connects the Facility to the Southern Sydney Freight Line.
FCMMs	Final Compilation of Mitigation Measures
GHFF	Grey-headed Flying-fox
IMEX	Import Export Terminal. Includes the following key components: <ul style="list-style-type: none"> • Truck processing, holding and loading areas with entrance and exit from Moorebank Avenue • Rail loading and adjacent container storage areas serviced by container handling equipment • Administration facility and associated car parking
MIP	Moorebank Intermodal Precinct
MIP East Precinct Approvals	<ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) Approval (No. 2011/6229), March 2014 • Concept Approval received 29 September 2014 (MP10_0193). • Stage 1 approved 12 December 2016 (SSD 6766) • Stage 2 approved 31 January 2018 (SSD 7628) • Stage 2 Modification 1 approved 14 March 2022 (SSD 7628 MOD 1) • Stage 2 Modification 2 approved 31 January 2020 (SSD 7628 MOD 2) • Stage 2 Modification 3 approved 18 December 2020 (SSD 7628 MOD 3) • Stage 2 Modification 4 approved 19 January 2021 (SSD 7628 MOD 4) • Stage 2 Modification 5 approved 4 September 2023 (SSD 7628 MOD 5) • Stage 2 Modification 6 approved 22 February 2024 (SSD 7628 MOD 6)
MIP West Precinct Approvals	<ul style="list-style-type: none"> • Concept and Stage 1 approved 3 June 2016 (SSD 5066) • Stage 2 approved 11 November 2019 (SSD 7709)

Acronym / Term	Meaning
	<ul style="list-style-type: none"> Stage 3 approved 11 May 2021 (SSD 10431)
MLP	Moorebank Logistics Park (now MIP)
Moorebank Intermodal Precinct	Refers to the whole Moorebank Intermodal Precinct, i.e. MIP East Precinct and the MIP West Precinct
Native vegetation	For the purposes of this management plan, native vegetation is defined as areas of plant community types mapped by Arcadis and WSP Parsons Brinckerhoff in the Moorebank Precinct, being a consolidation of all assessments for the Moorebank Precinct conducted since 2011.
OEH	Office of Environment and Heritage (now DPE Environment and Heritage)
OEMP	Operational Environmental Management Plan
OFFMP	Operational Flora and Fauna Management Plan
Operational area / Operational footprint	Extent of operational activities for the operation of the MIP East Precinct
OSD	Onsite Detention Basin
PCT	Plant Community Types
POPD	Program for Operational Phase Documentation
Primary Conditions	Conditions specific to the development of the management plan
RALP	Rail Access Land Package
Rail link	Part of MIP East Precinct Stage 1 (SSD 6766), connecting the MIP East Precinct site to the SSFL. The Rail link is to be utilised for the operation of the Facility.
SSFL	Southern Sydney Freight Line
RtS	Response to Submissions
Secondary Conditions	Conditions related to the environmental aspects associated with the plan
SIMTA	Sydney Intermodal Terminal Alliance (the original applicant for Stage 1 (SSD 6766) and Stage 2 (SSD 7628), and Stage 2 MOD1 to MOD5)
SIOMP	Stormwater Infrastructure and Operational Management Plan
SSD	State significant development
SSFL	Southern Sydney Freight Line
TEC	Threatened ecological community

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1 INTRODUCTION

The Moorebank Intermodal Precinct (MIP)¹ is an integral component of the Freight, Ports and Transport strategies of both the NSW and Commonwealth governments to help manage the challenges of an expected tripling of freight volumes at Port Botany by 2031.

The construction and operation of Stages 1 and 2 of the MIP East Precinct (SSD 6766 and SSD 7628 (as modified by MOD 1, MOD 2, MOD 3, MOD 4, MOD 5 and MOD6, respectively) was approved on 12 December 2016 and 31 January 2018, respectively. The project was also approved under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC 2011/6229) on 6 March 2014. Together, the approvals comprise the two stages of development under the MPE Concept Approval (MP10_0193) which was approved on 29 September 2014.

This OFFMP addresses the relevant requirements of the Project Approvals, including the Environmental Impact Statement (EIS), Response to Submissions (RtS) and Minister's Conditions of Consent (CoC), and all applicable guidelines and standards specific to the management of flora and fauna during operations of the MIP East Precinct.

1.1 Background

The MIP is an integral component of the Freight, Ports and Transport strategies of both the NSW and Commonwealth governments to help manage the challenges of an expected tripling of freight volumes at Port Botany by 2031.

The MIP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27 kilometres (km) south-west of the Sydney Central Business District and approximately 26 km west of Port Botany within the Liverpool Local Government Area. The MIP is divided into an East Precinct and a West Precinct, located east and west of Moorebank Avenue respectively, (Figure 1-2). The MIP East Precinct is operational and is managed under an Operation Environmental Management Plan (OEMP), while the MIP West Precinct is still currently under construction.

The main features of the MIP East Precinct include:

- An Import Export (IMEX) Terminal. The IMEX Terminal comprises:
 - Truck processing, holding and loading areas with an entrance and exit from Moorebank Avenue
 - Rail loading and container storage areas serviced by container handling equipment
 - An Administration facility and associated car parking with light vehicle access from Moorebank Avenue
- A Rail Link connecting the IMEX terminal and the Southern Sydney Freight Line (SSFL) traversing Moorebank Avenue, Anzac Creek, Georges River and Glenfield Waste Facility
- Associated ancillary infrastructure including signage, lighting, landscaping, water management
- Warehouse and distribution facilities including warehousing up to 21 metres in height, typically ranging in size from 20,000 m² to 62,000 m²
 - Office and administration facilities
 - Amenities

¹ In 2022, LOGOS Property took over the management of the warehouse and distribution facilities, as well as the overall management of the Moorebank Logistic Park (MLP), including both the East and West Precincts. Following this, the MLP is now known as the MIP (Moorebank Intermodal Precinct). The two precincts are known as MIP East Precinct and MIP West Precinct. This is reflected throughout the OEMP.

- Car parking
- Truck loading/unloading docks
- Internal parking for pick-up and delivery vehicles (PUD)
- Specialised sortation and conveyor equipment
- Hardstand areas that provide trailer parking spaces, external PUD parking spaces, vehicle manoeuvring areas and access to the main internal site road
- Signage for business identification purposes, including backlit illuminated signage on each warehouse
- Internal fitout, comprising racking and storage
- A freight village including a mix of retail, commercial and light industrial spaces typically up to 15 metres in height and varying in size and design
- An internal road network to enable efficient movement of vehicles, dispatch of freight from the warehouses and transport of containers between the IMEX Terminal and warehouse and distribution facilities

This OFFMP applies to the MIP East Precinct and the Operational Rail Link shown in Figure 1-2.

In 2022, LOGOS Property took over the management of the warehouse and distribution facilities, as well as the overall management of the MIP East Precinct. In July 2024, ESR Group acquired the remaining interest in LOGOS, and overall management of the MIP East Precinct, is now the responsibility of ESR Australia & NZ (ESR)². Qube Logistics will continue to maintain responsibility for the IMEX and the Rail Link. Section 2 of the OEMP describes the operational areas of responsibilities for ESR and Qube Logistics. This is also summarised in Figure 1-1.

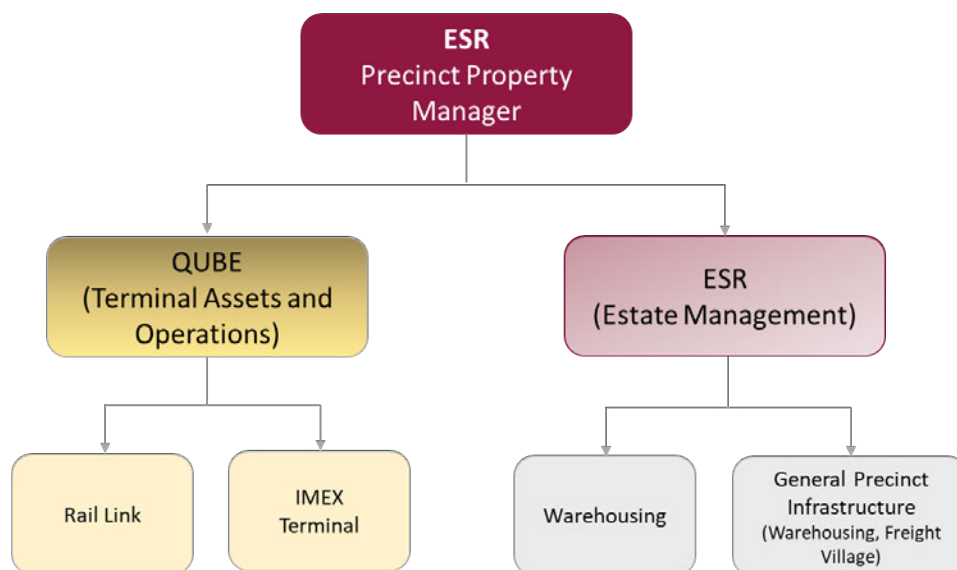


Figure 1-1: Environmental Management Structure

² ESR is currently in process of updating procedures and processes from LOGOS to ESR. Documentation listed in the OEMP will be updated overtime to reflect ESR naming conventions. Where existing LOGOS documents are being used (e.g. Sustainability Policy, EMS), these are still referred to in the OEMP.

1.2 Purpose and Application

This OFFMP is a sub-plan to the Operational Environmental Management Plan (OEMP) and has been developed to address the requirements of the MIP East Precinct Stage 2 CoC B110 (SSD 7628 as modified) which requires the preparation of an OFFMP prior to operation.

This OFFMP has been prepared in accordance with the MIP East Precinct Stage 2 CoC (SSD 7628) and the planning instruments and guidelines listed in Section 2.1 and Section 2.2.

The OFFMP identifies the operational environmental management measures that will be applied to activities undertaken across the MIP East Precinct to manage identified flora and fauna risks. The specific CoC and Final Compilation of Mitigation Measures (FCMMs) relevant to the development of this plan are identified in Section 2.2.

The most recent, approved version of this plan will be implemented to manage flora and fauna risks associated with Facility operations and/ or activities.

1.3 Proposed staged/progressive application of the OEMP

The OEMP and sub-plans are applicable to the entire MIP East Precinct and Operational Rail Link. However, as operational areas will come online incrementally as warehouses are constructed and tenanted, the OEMP and sub-plans will be progressively applied to those operational areas. The proposed staged/progressive application of the OEMP and sub-plans is described in the Program for Operational Phase Documentation (POPD), which was approved by the Secretary for review on 21 May 2019.

The proposed staged/progressive application of the OEMP, as described in the POPD, is shown on Figure 1-3, with dates of operation detailed in Table 1-1. Note that these dates are estimates and are subject to change. Area 1 and Area 2 are currently operational.

Table 1-1 Progression of the MIP Precinct operation

Area	Approximate Dates	Component
Area 1	Q3 2019	IMEX, Rail Link and Warehouse 1
Area 2	Q4 2020	Warehouse 3, 4 and 5
Area 3	Q4 2023	Warehouse 6 and 7
Area 4	Q4 2025	Freight village
Area 5	Q4 2025	Warehouse 2
Area 6	Q1 2026	Moorebank upgrade

In accordance with CoC C6 (SSD 7628) each warehouse tenant will also prepare a Warehouse OEMP (WOEMP) prior to occupation of the warehouse based on the requirements of the OEMP and sub-plans. The Secretary will be notified one month prior to commencement of operation of each new warehouse in accordance with CoC A18 (SSD 7628). The WOEMP will be submitted to the Secretary for approval prior to commencement of operation of the warehouse.

1.3.1 Relationship of Stages

The OEMP and sub-plans are applicable to the entire MIP East Precinct and Operational Rain Link. However, as areas become operational incrementally, construction areas will be rescinded and will continue to be managed in accordance with CEMP and sub-plans; conversely, operational areas will be managed in accordance with the OEMP and sub-plans. Operation of the site will only commence once the OEMP and

sub-plans have been approved by the Secretary and by the Federal Minister for the Environment (or delegate).

The Environmental Representative (ER), under CoC C24(d) (SSD 7628), is required to review the CEMP and OEMP to ensure they are “*consistent with requirements of the consent.*” The ER will continue to review and endorse any proposed changes to the CEMP and subplans until such time construction is complete and the MIP East Precinct site is fully operational. The ER will also review and endorse the updated figures for all operational documentation to ensure parity between construction and operational documentation. The operational figures will then be submitted to DPE for information as described in Section 1.3.2.

Until the entire MIP East Precinct is operational, all construction zones will be fenced off to provide clear distinction between construction zones and the operational facility.

1.3.2 Triggers

As required by CoC A18 (SSD 7628) the Secretary will be notified one month prior to commencement of operation of each new area shown in Table 1-1 and Figure 1-3. The notification will include updated figures detailing the new areas of operation which will fall under the remit of the OEMP as well as the reduced construction areas. As described in Section 1.3.1, the updated areas will have been endorsed by the ER prior to submission to the Secretary.

Following notification, the OEMP and each sub-plan will be updated with the new operational site layout, while the CEMP and applicable sub-plans will be revised to show the reduced area of construction.

1.4 Structure of the OFFMP

Combining strategies, plans and programs is permitted by CoC A16 and CoC A17, subject to the approval of the Secretary. Qube at the time of preparing the OEMP elected to include the requirements of SSD 6766 and SSD 7628, and the EPBC Act approval for EPBC 2011/6229, which relate to the management of flora and fauna into one plan.

Approval to combine the requirements of FCMMs from SSD 6766 and CoC and FCMMs from SSD 7628 was granted by the Secretary on the 21 May 2019. The OFFMP addresses the relevant CoC (Table 2-2) and FCMMs from both consents (Table 2-3 and Table 2-4).

1.5 Objectives and Targets

Table 1-2 below outlines the objectives and targets set out for the MIP East Precinct for the management of flora and fauna during operation. These objectives and targets were developed by the Principal's Representative based on collective industry experience and best practice and requirements of the EIA and have been endorsed by the Project's Environmental Representative.

Table 1-2: Objectives and Targets

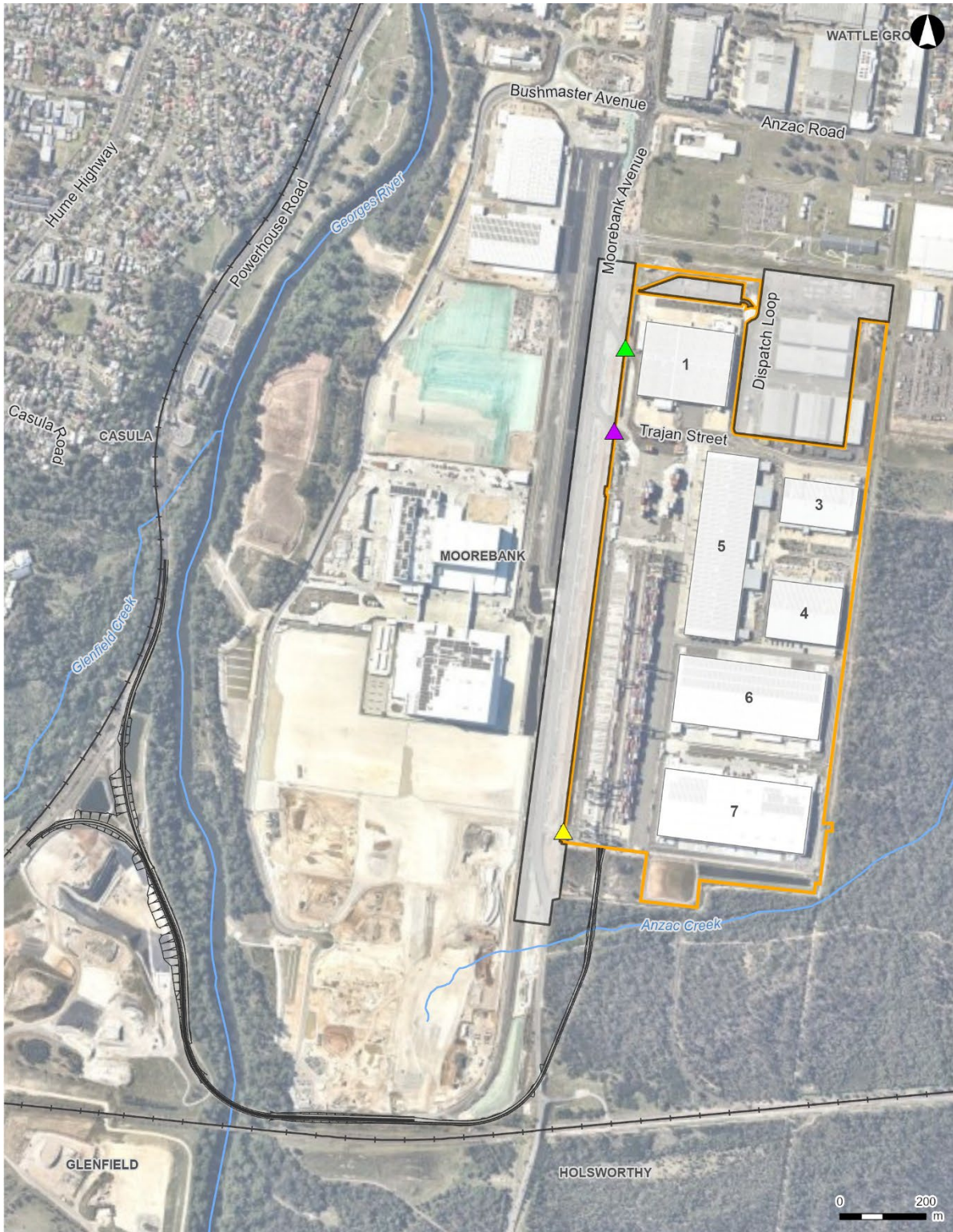
Objective	Target	Timeframe	Accountability
Protect threatened flora species from incidental harm	No damage or removal of any threatened flora species that appear on, or occur adjacent to, the Facility	Ongoing	Site SHEQ Manager / Advisor for MIP East Precinct
Protect vegetated areas adjacent to the Facility by preventing the spread of weeds and pathogens	Weeds controlled in accordance with the requirements of the <i>Biosecurity Act 2015</i>	Ongoing	Site SHEQ Manager/ Advisor for MIP East Precinct
	No occurrence of pathogens on site (e.g. phytophthora, chytrid)	Ongoing	
Minimise harm to fauna	No death or injury to native fauna Control feral fauna species No impacts to threatened fauna species	Ongoing	Site SHEQ Manager/ Advisor for MIP East Precinct
Protect aquatic environments	No spills or pollution incidents in Anzac Creek and Georges River Maintain or improve water quality, aquatic fauna assemblages and aquatic habitats at Anzac Creek and Georges River	Ongoing Two years after construction	Site SHEQ Manager/ Advisor for MIP East Precinct

1.6 Consultation

This OFFMP has been prepared in consultation with relevant stakeholders. The table below will be updated as consultation with the applicable agencies progresses.

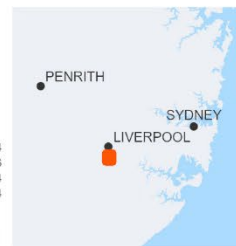
Table 1-3: Consultation Summary

Agency	Date	Person contacted	Comment	Status
OEH	02/05/19	Richard Bonner	Updates to Figure 3-1 to include fauna values and Figure 4-1 with monitoring locations. Additional minor editorial updates.	Closed



Legend

- MIP East Precinct construction area
- MIP East Precinct operational area
- Warehouse layout
- ▲ Warehouse access
- ▲ IMEX truck access
- ▲ Emergency access
- Operational rail link
- ~ Watercourse
- Railway



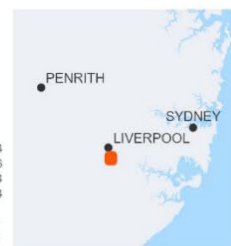
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 GDA2020 MGA Zone 56
 Date issued: July 18, 2024
 Imagery: Nearmap 2024

Figure 1-2: Site Location



Legend

- | | | |
|-------------------------------------|-----------------------------|-----------------------|
| MIP East Precinct construction area | Operational staging: | Warehouse access |
| MIP East Precinct operational area | Area 1 | IMEX truck access |
| Warehouse layout | Area 2 | Emergency access |
| | Area 3 | Operational rail link |
| | Area 4: Freight Village | Watercourse |
| | Area 5 | |
| | Area 6 | |

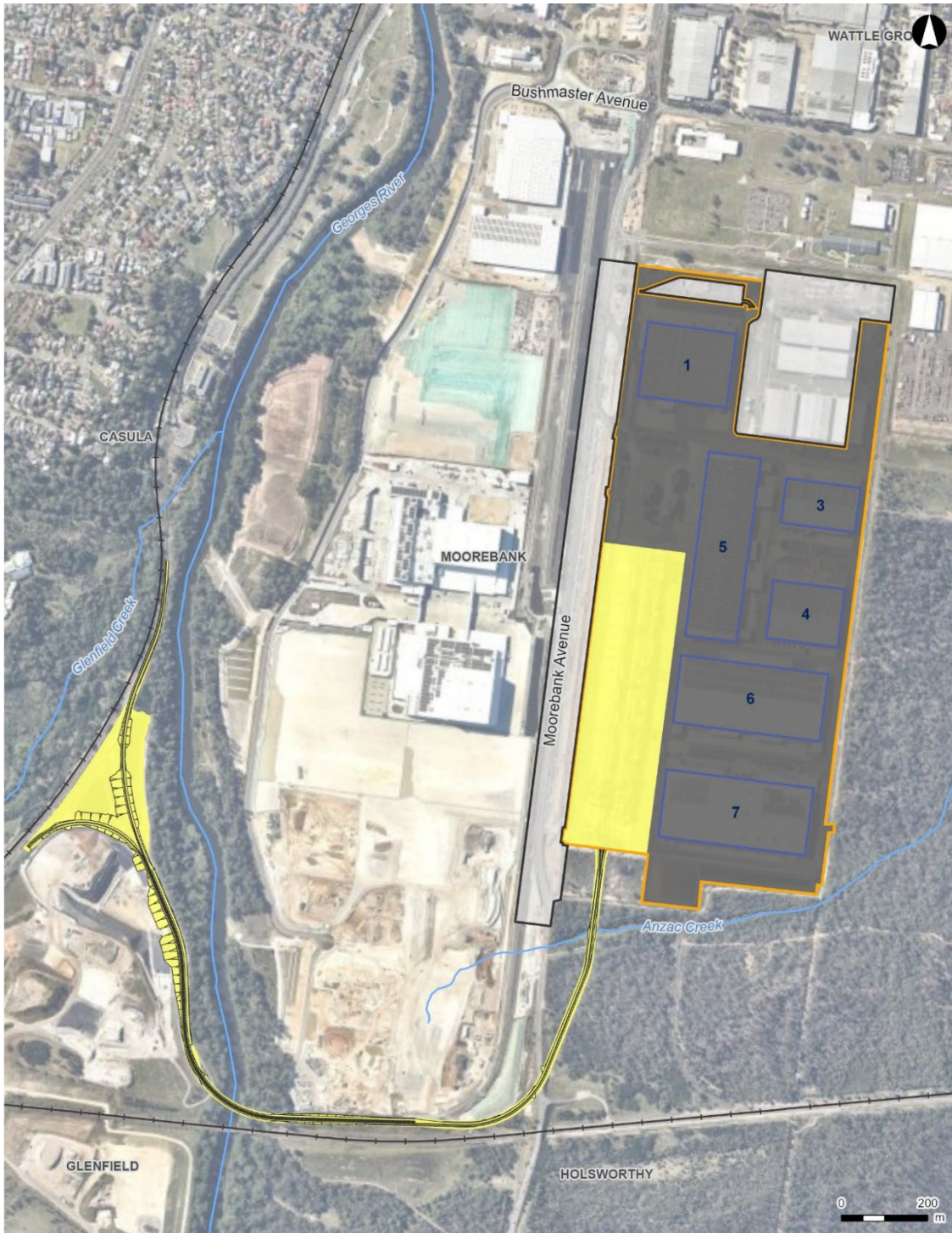


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 GDA2020 MGA Zone 56
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 Imagery: Nearmap 2024

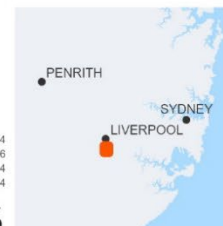


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Figure 1-3: Proposed staged/progressive staging of the MIP East Precinct



- Legend**
- MIP East Precinct construction area
 - MIP East Precinct operational area
 - Warehouse layout
 - ESR
 - Qube
 - Operational rail link
 - ~ Watercourse
 - Railway



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Figure 1-4: Areas of responsibilities maintained by ESR and Qube Logistics

2 STATUTORY REQUIREMENTS

2.1 Legal and Other Obligations

Details about the legislation, planning instruments and guidelines considered during development of this plan are listed below. Further detail concerning the legislation, planning instruments and guidelines identified below are provided in the Legislation Register within Appendix B of the OEMP.

- *Environmental Planning and Assessment Act 1979* (EP&A) Act)
- *Environmental Planning and Assessment Regulation 2000*
- *Environment Protection and Biodiversity Act 1999* (EPBC Act)
- *Biodiversity Conservation Act 2016* (BC Act)
- *Biosecurity Act 2015*
- *Biosecurity Regulation 2017*
- *Fisheries Management Act 1994*

2.2 Development Consent

The operation of the MIP East Precinct was approved under both the *Environmental Planning and Assessment Act 1979* (EP&A) Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Both these approvals have flora and fauna management conditions relevant to the operation of the MIP East Precinct, which are discussed below.

The operational flora and fauna requirements for the Facility, including consultation, impact mitigation and management, is documented in the following suite of documents:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval (No. 2011/6229), March 2014
- MIP East Precinct Concept Approval (MP 10_0193), approved 29 September 2014
- State Significant Development (SSD) Consent SSD 6766, approved 13 March 2018 (superseding initial approval 12 December 2016)
- Moorebank Precinct East – Stage 1 – Environmental Impact Statement (Arcadis Australia Pacific Pty Limited, May 2015)
- Moorebank Precinct East – Stage 1 – Response to Submissions (Arcadis Australia Pacific Pty Limited, September 2015), including Final Compilation of Mitigation Measures (FCMMs).
- State Significant Development (SSD) Consent SSD 7628, 31 January 2018
- SSD 7628 MOD 1, approved 14 March 2022
- SSD 7628 MOD 2, approved 31 January 2020
- SSD 7628 MOD 3, approved 18 December 2020
- SSD 7628 MOD 4, approved 19 January 2021
- SSD 7628 MOD 5, approved 4 September 2023
- SSD 7628 MOD 6, approved 22 February 2024
- Moorebank Precinct East – Stage 2 – Environmental Impact Statement (Arcadis Australia Pacific Pty Limited, December 2016)

- Moorebank Precinct East – Stage 2 – Response to Submissions (Arcadis Australia Pacific Pty Limited, July 2017), including FCMMs.

In addition to the above documentation, this OFFMP has also considered the following documents:

- SIMTA Moorebank Project East Stage 1: Biodiversity Assessment Report (Arcadis 2017)
- Moorebank Precinct East Stage 2: Biodiversity Assessment Report (Arcadis 2017)
- Moorebank Precinct East - Stage 1 Project: Threatened Flora Offset Management Plan
- Urban Design and Landscape Plan: Moorebank Precinct East Stage 1
- Urban Design and Landscape Plan: Moorebank Precinct East Stage 2
- Construction Flora and Fauna Management Plan Moorebank Precinct East Stage 1 – RALP No. 1

2.2.1 EPBC Act Approval

The EPBC Act approval for the MIP East Precinct Concept was granted by the Federal Minister for the Environment in March 2014 (No. 2011/6229). Approval was required due to impacts on listed threatened species and communities (Sections 18 and 18A of the EPBC Act) and Commonwealth land (Sections 26 and 27A of the EPBC Act). SIMTA was the original applicant for the EPBC approval, with current approval ownership shared between ESR and Qube.

The construction and operation of the Facility has been designed to meet the EPBC Act approval conditions. The EPBC Act Conditions of Approval (CoA) relevant to biodiversity and this OFFMP are detailed in Table 2-1. Many of the CoA relate to pre-construction and construction activities but have been included to demonstrate compliance with the CoA. The table also specifically identifies where each of the CoA have been, or are to be, satisfied.

Table 2-1: EPBC Act CoA

CoA	Requirement	Timing	Where addressed in this plan
5	For the better protection of EPBC listed flora & the environment on Commonwealth land, the person taking the action must engage a suitably qualified expert to prepare a Flora and Fauna Management Plan (FFMP) for the approval of the Minister. The FFMP must include (but need not be limited to):	Not applicable, clearing conducted during pre-construction and construction phase	There will be no further clearing of native vegetation during the operation stage (See Section 3.2.2)
	a) details on the timing of native vegetation clearance works; b) detailed maps of the rail link easement and construction zone showing: <ol style="list-style-type: none"> i. permanent infrastructure and temporary works; ii. no-go areas; and iii. physical barriers used for the protection of native vegetation on Commonwealth land, and of EPBC Act listed Nodding Geebung and Small-flower Grevillea. 	Satisfied during pre-construction and construction	Section 3.1.4, Figure 3-1 and Figure 3-2

CoA	Requirement	Timing	Where addressed in this plan
5	c) measures to minimise the extent of native vegetation clearing upon Commonwealth land and the clearing of Nodding Geebung and Small-flower Grevillea;	Not applicable, clearing conducted during pre-construction and construction	There will be no further clearing of native vegetation during the operation stage (Section 3.2.2)
	d) provisions to ensure no more than 17 individuals of Nodding Geebung and 634 stems of Small-flower Grevillea are cleared;	Not applicable, clearing conducted during pre-construction and construction	There will be no further clearing of native vegetation during the operation stage (Section 3.2.2) and records of cleared individuals of Nodding Geebung and stems of Small-flower Grevillea are maintained (Section 3.3, FF-18(b)) to ensure these limits are not exceeded
	e) the results of targeted surveys for <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle (including the number of individuals recorded) and what measures will be implemented to avoid, mitigate and manage impacts to these species, if individuals are found on site;	Ongoing for operations	Results of targeted surveys for <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle (including the number of individuals recorded) are provided in Section 3.1 and measures to be implemented to avoid, mitigate and manage impacts to these species, if individuals are found on site are located in Section 3.3 (FF-18(c) and FF-18(d))
	f) measures which allow terrestrial fauna to disperse naturally ahead of clearing activities, and minimise the risk of injury to individuals;	Ongoing for operations	There will be no further clearing of native vegetation during the operation stage (Section 3.2.2)
	g) actions to maintain or enhance the long-term viability of native vegetation adjoining the rail easement in particular, adjoining populations of Nodding Geebung and Small flower Grevillea;	Ongoing for operations	Section 3.3, Table 3-6, FF-17 to FF-19
	h) measures to safeguard flora and fauna from the threat of weeds, fire, pathogens and unauthorised access, including (but not limited to) the commitments outlined in section 7.4.1 of the EIS (and summarised at Annexure A)	Ongoing for operations	Appendix B sets out the requirements of Annexure A. Annexure A requirements addressed in Section 3.3, Table 3-6, FF-01 to FF-19
	i) ongoing monitoring to inform the adaptive management of native vegetation adjoining the rail easement.	Ongoing for operations	Moorebank Precinct: Biodiversity Management Implementation Plan Section 4.1.1, Table 4-2 Section 4.3, Table 4-4
Annexure A – Summary of Mitigation Measures			
Flora and Fauna	The Part 3A Guidelines for Threatened Species Assessment (DEC & DPI 2005) require the fauna description and justification of measures to mitigate adverse effects arising from development proposals. Primary consideration should be given to measures to avoid or minimise impacts; where avoidance and mitigation are not	Satisfied during pre-construction and construction	There will be no further clearing of native vegetation during the operation stage as outlined in Section 3.2.2)

CoA	Requirement	Timing	Where addressed in this plan
	possible, offset strategies may be considered as a last resort. The steps in the avoid, mitigate and offset approach are as follows:		
Flora and Fauna	Mitigate <ul style="list-style-type: none"> Management of weeds in and adjacent to cleared areas will occur in accordance with a Weed Management Plan. This plan will include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols if required. 	Ongoing for operations	Section 3.3, Table 3-6 FF-02 to FF-07 Section 4.1 Appendix B
	<ul style="list-style-type: none"> Management of noxious weeds are to be undertaken in accordance with the <i>Noxious Weeds Act 1993</i>. 	Ongoing for operations	Section 3.3, Table 3-6 FF-02 to FF-07 Appendix B Note, <i>Noxious Weeds Act 1993</i> repealed and replaced by <i>Biosecurity Act 2015</i>
	<ul style="list-style-type: none"> Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the project site to minimise the likelihood of transferring any plant material and soil. 	Ongoing for operations	Section 3.3, Table 3-6 FF-03 Appendix B
	<ul style="list-style-type: none"> Site inductions are to include a briefing regarding the local fauna of the site and identification of protocols to be undertaken if fauna is encountered. 	Ongoing for operations	Section 3.3, Table 3-6 FF-01(a) Appendix B
	<ul style="list-style-type: none"> Landscaped zones to capture gross pollutants and oil and grits from pavement. These areas can be regularly maintained to remove rubbish and can be renewed on a regular basis. 	Ongoing for operations	Section 4.1 and Appendix A of the MIP East Precinct Stage 1 Urban Design Landscaping Plan (UDLP) [SSS1-QPMS-EN-PLN-00002] Section 4.1 and Appendix A3 of the MIP East Precinct Stage 2 UDLP [SSS2-QPMS-EN-APP-00034]
	<ul style="list-style-type: none"> Bio-retention installed in base of channels and swales proposed to capture and store stormwater. This will consist of biofiltration layers, planting and subsoil collection and drainage. 	Ongoing for operations	Section 4.4, Section 4.5, Section 6.2 and Appendix A of the MIP East Precinct Stage 1 UDLP [SSS1-QPMS-EN-PLN-00002] Section 4.1 and Appendix A3 of the MIP East Precinct Stage 2 UDLP (SSS2-QPMS-EN-APP-00034)
	<ul style="list-style-type: none"> Vehicles and plant should not block fire trials. 	Ongoing for operations	Section 3.3, Table 3-6 FF-01(g) Appendix B
	<ul style="list-style-type: none"> Speed limits will be developed so as to minimise the potential for fauna to be struck by a vehicle within the SIMTA site. All vehicles and plant in operation on the SIMTA 	Ongoing for operations	Section 3.3, Table 3-6 FF-14 Appendix B

CoA	Requirement	Timing	Where addressed in this plan
	site are to adhere to site rules relating to speed limits.		
Flora and Fauna	<ul style="list-style-type: none"> If an animal is injured, contact one of the following local wildlife rescue agencies (e.g. WIRES) and/or veterinary surgery immediately. 	Ongoing for operations	Section 3.3, Table 3-6 FF-12 Appendix B
	<ul style="list-style-type: none"> Until the animal can be cared for by a suitably qualified animal handler, if possible, minimise stress to the animal and reduce the risk of further injury by: <ul style="list-style-type: none"> Handling fauna with care and as little as possible. Covering larger animals with a towel or blanket and placing in a large cardboard box. Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark 	Ongoing for operations	Section 3.3, Table 3-6 FF-12 to FF-14 Appendix B
	<ul style="list-style-type: none"> Weed infestations that are identified during the operation of the SIMTA proposal are to be managed in accordance with the removal methods outlined in the Weed Management Plan. 	Ongoing for operations	Section 3.3, Table 3-6 FF-02 to FF-07 Appendix B

2.2.2 EP&A Act Approval

The MIP East Precinct was approved under Part 4, Division 4.7 (previously Division 4.1 prior to 1 March 2018) of the EP&A Act. Approval for MIP East Precinct Stage 1 was originally received on 12 December 2016 (SSD 6766) and subject to appeal, with revised CoC issued from the Land and Environment Court on 13 March 2018; approval for MIP East Precinct Stage 2 was received on 31 January 2018 (SSD 7628).

No specific requirement for an OFFMP was provided for MIP East Precinct Stage 1 (SSD 6766). Subsequently, the MIP East Precinct Stage 2 (SSD 7628) B110 included a requirement to prepare an OFFMP for the MIP East Precinct.

These specific requirements under B110 (SSD 7628), and how they are addressed are provided within Table 2-2.

Table 2-2: CoC of SSD 7628 (MIP East Precinct Stage 2)

CoC	Requirement	Timing	Section or Document where requirements are addressed
Primary Condition			
B110	Prior to operation, the Applicant must prepare an Operational Flora and Fauna Management Plan (OFFMP) in consultation with OEH. The OFFMP must form part of the OEMP required by condition	Operation	This OFFMP

CoC	Requirement	Timing	Section or Document where requirements are addressed
	C3 and must include measures to ensure biodiversity values not intended to be impacted are protected, including but not limited to:		
B110	(i) weed control;	Operation	Section 3.3, Table 3-6 FF-02 to FF-07
	(ii) feral animal control;	Operation	Section 3.3, Table 3-6 FF-15
	(iii) pathogen management procedures;	Operation	Section 3.3, Table 3-6 FF-08 to FF-11
	(iv) monitoring; and	Operation	Section 4.1, Table 4-1 and Table 4-2
	(v) rehabilitation actions	Operation	Section 3.3, Table 3-6 FF-20 Section 4.1, Table 4-1 Section 4.3, Table 4-4
C7	The Applicant must ensure that the environmental management plans required under this consent are prepared in accordance with any relevant guidelines, and include:		
	a) detailed baseline data;	Operation	Section 3.1
	b) a description of:		
	i. the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Operation	Section 2.1; Table 2-1, Table 2-2, Table 2-3, Table 2-4
	ii. any relevant limits or performance measures/criteria; and	Operation	Section 4.1; Table 4-1, Table 4-2
	iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Operation	Section 4.1; Table 4-1, Table 4-2
	c) a description of the management measures to be implemented to comply with the relevant statutory requirements, limits or performance measures/criteria;	Operation	Section 3.3; Table 3-6
	d) a program to monitor and report on the:		
	i. impacts and environmental performance of the development; and	Operation	Section 4.1
	ii. effectiveness of any management measures (see (c) above);	Operation	Section 4.4
	e) contingency plan to manage any unpredicted impacts and their consequences;	Operation	Section 4.5 and 4.7
f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Operation	Section 4.4	
g) a protocol for managing and reporting any:			

CoC	Requirement	Timing	Section or Document where requirements are addressed
C7	i. incidents and non-compliances;	Operation	Section 4.5 and 4.7
	ii. complaints;	Operation	Section 4.6
	iii. non-compliances with statutory requirements; and	Operation	Section 4.7
	h) a protocol for periodic review of the plan.	Operation	Section 4.4
Secondary Conditions			
A14	With the approval of the Secretary, the Applicant may submit any strategy, plan or program required by this consent on a staged basis.	Prior to the commencement of operations	Section 1.3 Refer to the POPD [PREC-ARC-EN-PRG-0001]
A15	If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program must clearly describe the specific stage of the development to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program.	Prior to the commencement of operations	Section 1.3 Refer to the POPD [PREC-ARC-EN-PRG-0001]
A16	With the approval of the Secretary, any strategy, plan or program required by this consent may be combined	Prior to the commencement of operations	Section 1.4 Refer to the POPD [PREC-ARC-EN-PRG-0001]
A17	In seeking the Secretary's approval, a clear relationship must be demonstrated between the strategies, plans or programs that are proposed to be combined.	Prior to the commencement of operations	Section 1.4 Refer to the POPD [PREC-ARC-EN-PRG-0001]
B106	Prior to early works, a baseline monitoring program must be prepared in consultation with OEH and DPI to define pre-development conditions for water quality, invertebrates and fish assemblages. The results of this monitoring program are to be used to:	Satisfied during pre-construction and construction	Moorebank Precinct East - Stage 2 Project B106 – Baseline Aquatic Ecological Monitoring Report
	(a) develop a Biodiversity Monitoring Strategy to identify any changes between upstream and downstream sites as a result of the construction and operation of the development; and	Ongoing for operations	Biodiversity Monitoring Strategy (SSD 7628) Section 4.1, Table 4-1 and Table 4-2
	(b) set the stormwater water quality and quantity performance criteria referred to in condition B40.	Satisfied during pre-construction and construction	Stormwater quality criteria during construction in accordance with the Construction Soil and Water Management Plan: Moorebank Precinct East Stage 2 Water quality monitoring undertaken in accordance with the Moorebank Precinct East - Stage 2 Project Baseline Aquatic Ecological Monitoring Programme (SSD 7628)

CoC	Requirement	Timing	Section or Document where requirements are addressed
	(b) set the stormwater water quality and quantity performance criteria referred to in condition B40.	Ongoing for operation	Moorebank Logistics Park Precinct East – Stage 2 Balance of Site Stormwater Management Plan (Costin Roe Consulting, 2018) Operational stormwater quality and quantity performance criteria and monitoring is addressed in SIOMP [PREC-QPMS-EN-PLN-0006] Section 4.1, Table 4-2
B111	Bushfire asset protection zones are to be contained wholly within the site boundary and management of the inner protection zone and must not impact on the Boot Land.	Operation	Section 3.3, Table 3-6 FF-17 Section 3.3 d Table 3-6 FF-20 and FF-21 Also refer to Section 4.11.2 of Operational Emergency Response Plan (ERP): Moorebank Intermodal Precinct – East Precinct [PREC-QPMS-EN-PLN-0002] which addresses the management of the Facility Asset Protection Zones (APZs) (Defendable Spaces).
B127	The Applicant must:	Construction	
	(a) take all reasonable steps to manage pests and vermin on the site;	Ongoing for operation	Section 3.3, Table 3-6 FF-15
	(b) manage declared noxious weeds on the site in accordance with the requirements of the Noxious Weeds Act 1993; and	Construction Ongoing for operation	Section 3.3, Table 3-6 FF-02 to 07
	(c) inspect the site on a regular basis, no less than every 3 months, to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.	Construction Ongoing for operation	Table 4-1
	Note: For the purposes of this condition, noxious weeds are those species subject to an order declared under the <i>Noxious Weed Act 1993</i> .	Construction Ongoing for operation	Note, <i>Noxious Weeds Act 1993</i> repealed and replaced by <i>Biosecurity Act 2015</i>

The Final Compilation of Mitigation Measures (FCMMs) are presented within the MIP East Precinct Stage 1 RtS (Arcadis, September 2015), the MIP East Precinct Stage 2 RtS (Arcadis, July 2017) and Appendix B of the MIP East Precinct Stage 2 Development Consent (SSD 7628) (31 January 2018). A list of flora and fauna mitigation measures as relevant to the operation of the Facility and how they have been addressed within this plan are provided in Table 2-3 and Table 2-4.

Table 2-3: FCMMs (MIP East Precinct Stage 1)

FCMM	Requirement	Section or Document where requirements are addressed
8B	Riparian vegetation within the Rail link and adjoining areas of impact at Anzac Creek and the banks of the Georges River would be protected, rehabilitated and managed in accordance with the measures detailed in the Riparian Vegetation Management Plan. Temporarily disturbed riparian areas in the Georges River will be revegetated with locally occurring native species as soon as practicable upon completion of bridge works.	Section 3.3, Table 3-6 FF-20 Also refer to Appendix H Riparian Vegetation Management Plan of SIMTA Moorebank Project East Stage 1: Biodiversity Assessment Report
8C	A nest box management strategy will be prepared prior to clearing of hollow bearing trees. The strategy will inform the installation of nest boxes in retained native vegetation in the riparian corridor of the Georges River and the woodland in the Southern Boot Land and the on-going monitoring and maintenance of nest boxes through the construction and operational phases.	Section 4.1, Table 4-1 and Table 4-2 Also refer to Appendix F Nest Box Management Strategy of Construction Flora and Fauna Management Plan Moorebank Precinct East Stage 1 – RALP No. 1
8F	Water quality and macroinvertebrate monitoring would be undertaken up and downstream of works within the Georges River and Anzac Creek, pre, during and post construction, to determine impacts on aquatic communities as a result of the Proposal. The monitoring plan would be developed and implemented by an appropriately qualified aquatic ecologist.	Section 4.1, Table 4-1 and Table 4-2 Figure 4-1 Also refer to Water Quality and Macroinvertebrate Monitoring Plan for Moorebank Precinct East Stage 1 RALP No. 1
8H	The corridor established for construction of the Rail Link will be stabilised in a manner which would enable the fuel load to be maintained in a low state. Where appropriate it would be stabilised following construction with local topsoil with growth of groundcover encouraged. The corridor would be managed by removing weeds and reducing the fuel load.	Section 3.3, Table 3-6 FF-17, FF-21 and FF-22. Also refer to Section 4.11.2 of Operational Emergency Response Plan (ERP): Moorebank Intermodal Precinct – East Precinct [PREC-QPMS-EN-PLN-0002] which addresses the management of the Facility Asset Protection Zones (APZs) (Defendable Spaces).

Table 2-4: FCMMs (MIP East Precinct Stage 2)

FCMM	Requirement	Document Reference
0C	The Operational Environmental Management Plan (OEMP), or equivalent, for the Amended Proposal would be based on the following preliminary management plans: ... <ul style="list-style-type: none"> Flora and Fauna Management Plan ...	This OFFMP
4F	Should any animal be injured, the relevant local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery would be contacted as soon as practical. Until the animal can be cared for by a suitably qualified animal handler, if possible, minimise stress to the animal and reduce the risk of further injury by: <ul style="list-style-type: none"> Handling fauna with care and as little as possible. 	Section 3.3, Table 3-6 FF-12

FCMM	Requirement	Document Reference
	<ul style="list-style-type: none"> Covering larger animals with a towel or blanket and placing in a large cardboard box. Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark location. 	
4G	A Flora and Fauna Management Plan would be prepared as part of the OEMP for the Amended Proposal. This FFMP would focus on minimising impacts on biodiversity values on the adjacent Boot land.	This OFFMP
	The FFMP would include measures relating to the monitoring, management and where necessary, eradication of weeds, disposal of green waste, and vehicle/ plant weed wash down protocols if required. Measures included in the FFMP relating to weed management would be prepared in accordance with the requirements of the <i>Noxious Weeds Act 1993</i> .	Section 3.3, Table 3-6 FF-02 to FF-07 Note, <i>Noxious Weeds Act 1993</i> repealed and replaced by <i>Biosecurity Act 2015</i>
4H	Potential indirect impacts to threatened flora species located within the Boot land (known as the Wattle Grove Offset Area) will be managed in accordance with the Biobanking Agreement.	Moorebank Precinct Biodiversity Management Implementation Plan
8B	<p>The following mitigation measures would be implemented, where reasonable and feasible, for the landscaping of the Amended Proposal:</p> <ul style="list-style-type: none"> Use of native shrubs and ground covers to form a screening barrier when mature. A landscaping corridor of screening vegetation to provide informal street character along Moorebank Avenue. Use of local species as understory planting to support and enhance local habitat values Use of seeds collected within the local area for planting to reinforce the genetic integrity of the region, where possible. 	<p>Section 4.1 and Appendix A of the MIP East Precinct Stage 1 Urban Design Landscaping Plan (UDLP)</p> <p>Section 4.1 and Appendix A3 of the MIP East Precinct Stage 2 UDLP</p>
8C	Light for the Amended Proposal would be designed to minimise any direct light spill and would comply with the requirements of <i>Australian Standard AS4282-1997</i> ³ - <i>Control of the Obtrusive Effects of Outdoor Lighting</i> .	<p>Section 3.1.1</p> <p>Also refer to Section 6.7, 7.6 and Appendix D of the MIP East Precinct Stage 1 UDLP and MIP East Precinct Stage 2 Lighting Sub Plan [SSS2-QPMS-EN-APP-00036]</p>

³ Now *Australian Standard AS4282:2019*

2.3 Roles and Responsibilities

Key roles and responsibilities applicable to this OFFMP are presented in Table 2-5.

Table 2-5: Roles and Responsibilities

Roles	Responsibilities
Site Safety, Health, Environment and Quality (SHEQ) Manager/Advisor for MIP East Precinct	<ul style="list-style-type: none"> • Engage and manage contractors for flora and fauna monitoring/management activities, weeding and landscaping • Point of contact for any flora and fauna related incidents and ensuring incidents are reported • Liaise with OEH/DPI as necessary • Review monitoring reports
Bush regenerator/ Landscape contractor	<ul style="list-style-type: none"> • Weed management • Landscaping and site rehabilitation • Reporting for any unexpected finds • Vegetation maintenance for bushfire risk
Ecologist	<ul style="list-style-type: none"> • Pre-clearance surveys • Supervise activities in ecologically sensitive areas • Fauna handling
Aquatic ecologist	<ul style="list-style-type: none"> • Aquatic monitoring

3 IMPLEMENTATION

This section addresses the key flora and fauna risks associated with operation of the Facility and the environmental controls established to manage key risks.

3.1 Existing Environment

Flora and fauna values relevant to the Facility are mapped in Figure 3-1 and Figure 3-2 and have been summarised from the project documentation (See Section 2.2).

Hibbertia sp. Bankstown (syn. *Hibbertia puberula subsp. glabrescens*) is currently known to occur in only one population at Bankstown Airport. The airport site is very heavily modified from the natural state, lacks canopy species and is currently a low grass/shrub association with many pasture grasses and other introduced herbaceous weeds. Soil at the site is a sandy (Tertiary) alluvium with a high silt content. The species was not detected and was considered unlikely to occur within the operational areas of the MIP East Precinct. (Moorebank Precinct East Stage 2 Biodiversity Assessment Report, Arcadis 2017).

Byrnoe's Wattle (*Acacia bynoeana*) occurs in heath or dry sclerophyll forest on sandy soils. The species seems to prefer open, sometimes slightly disturbed sites such as trail margins, edges of roadside spoil mounds and in recently burnt patches. This species was not detected within the operational areas of the MIP East Precinct (Moorebank Precinct East Stage 2 Biodiversity Assessment Report, Arcadis 2017).

3.1.1 MIP East Precinct

The operational areas of the Facility mostly comprise built infrastructure including the rail line, hardstand pavement (e.g. roads, car parks, loading and storage areas), warehousing, stormwater detention and water quality treatment structures and devices as described in Section 2 and shown in Figure 1-2. The entire MIP East Precinct, including the Rail Link, will be fenced.

The majority of the vegetation on site was cleared during construction in accordance with the relevant Construction Flora and Fauna Management Plan (RALP No. 1 and IMEX) and EPBC requirements. Planting/landscaping will be undertaken and managed in accordance with the *Urban Design and Landscape Plan: Moorebank Precinct East Stage 1* and *Urban Design and Landscape Plan: Moorebank Precinct East Stage 2*.

Landscaping focuses on the Moorebank Avenue frontage incorporating a vegetated bio-retention channel, car park areas, boundaries of internal roads and the onsite detention basins (OSD). Large native trees (mostly *Eucalyptus* sp.) and various understorey plantings endemic to the local area have been selected to minimise visual impacts from the surrounding urban landscape, create habitat opportunities and link surrounding vegetation communities. The proposed tree planting has been designed with the intent of creating a uniform canopy cover throughout the area.

OSDs and the bio-retention swales are to contain grass seed mixes and understorey plantings. The use of local and endemic species will provide habitat capable of supporting native fauna as well as providing adequate understorey to help support habitat values and integration with the surrounding vegetation areas. Proposed plant species have been selected for their site-suitability with many species selected from Liverpool City Council's recommended plant list.

Planted trees, shrubs and understorey vegetation offer potential nesting, sheltering and roosting habitat to birds. Flowering eucalypts also provide foraging habitat for Grey-headed Flying Fox (*Pteropus poliocephalus*). Open grassy areas provide foraging habitat for ground-feeding birds and small exotic terrestrial mammals such as the Brown Hare (*Lepus capensis*). OSD that contain temporary water following rain events offer habitat to colonising amphibians such as Common Eastern Froglet (*Crinia signifera*) and a water source for terrestrial fauna.

Lighting throughout the Facility has been designed to comply with the requirements of *Australian Standard AS4282 – Control of the Obtrusive Effects of Outdoor Lighting* and has been designed to reduce light spill to surrounding areas and to be contained within the site boundary. A light spill assessment, undertaken as part of the development of the Urban Design and Landscape Plan, demonstrated no adverse effects in the form of light spill is expected within the Boot Land⁴. In addition, there is no provision for lighting provisions for the Rail Link⁵, therefore minimising potential light spill impacts on fauna.

3.1.2 Anzac Creek crossing

Anzac Creek is a watercourse with intermittent flow supporting semi-permanent to permanent water in pools and as such, is classified as Class 3 (Minimal Fish Habitat) in accordance with Fairfull and Witheridge (2003). It is a 3rd order stream. The Anzac Creek AUSRIVAS sampling site falls into “Band B”, indicating that the macroinvertebrate community was ‘significantly impaired’.

A bushfire passed through Anzac Creek in May 2018. Prior to the fire, vegetation in the vicinity of the Rail Link crossing was observed to support dense stands of *Typha orientalis* (Broad-leaf Cumbungi) and *Bolboschoenus fluviatilis* (Club-rush) with the highly invasive species *Alternanthera philoxeroides* (Alligator Weed) abundant in the lower stratum. In 2011 and 2012, a dense infestation of *Salvinia molesta* (Salvinia) was observed on the creek surface upstream of the Rail Link immediately to the west of the disused rail spur. This was not observed during vegetation surveys in 2014. During spring 2018 surveys of Anzac Creek, there appeared to have been considerable regeneration of instream and riparian vegetation. Amongst early re-colonisers of the stream channel was *A. philoxeroides*, *Cyperus* sp. and *Typha* sp.

The Rail Link crosses Anzac Creek with an eight-cell box culvert about 20 metre long (cells are 2.1 metres x 1.8 metres) supported on a reinforced concrete base slab. Concrete apron slabs and rip rap scour protection are provided. Rip rap has been extended to create a shallow “pool” both upstream and downstream of the apron slab. The two outer cells of the culvert are elevated some 700 mm above base of the wet cells to facilitate dry fauna passage.

3.1.3 Georges River crossing

The Georges River comprises a major permanently flowing river and as such, is classified as Class 1 (Major Fish Habitat) in accordance with Fairfull and Witheridge (2003). It is also mapped as ‘Key Fish Habitat’ on DPI’s Key Fish Habitat map for the Sydney Metropolitan area. Aquatic habitats of the Georges River within the Rail Link project included soft substrate pool habitat, large woody debris and extensive macrophyte cover. Overhanging vegetation, fallen logs, mats of sticks and submerged and floating aquatic plants were present along the bank. This extensive macrophyte cover of submerged and floating aquatic plants has reduced the heterogeneity of aquatic habitat and most likely affects the composition of the macroinvertebrate community present. The Georges River AUSRIVAS sampling site falls into Band C in accordance with the AUSRIVAS model, indicating that it is ‘severely impaired’.

The Rail Link crosses the Georges River with a six span bridge that is approximately 178 metres long. The land within 100 metres of the eastern and western banks of the Georges River support forest vegetation. The steep slope adjacent to the riverbank is severely degraded riparian vegetation, reduced to mature trees of *Eucalyptus saligna x botryoides* (Blue Gum/Bangalay hybrid) and *Eucalyptus longifolia* (Wollybutt) on the eastern bank only. The eastern bank understorey is dominated by *Ligustrum sinense* (Small-leaved Privet) and smothered by exotic weeds. Vegetation is less disturbed upslope. The western bank of understorey consists of a mixture of native shrub, herb and grass species and some dense stands of *Olea europaea*

⁴ Urban Design and Landscape Plan – Moorebank Precinct East Stage 2 (Lighting sub plan)

⁵ Urban Design and Landscape Plan – Moorebank Precinct East Stage 1

subsp. *cuspidata* and *Lantana camara*, with *Tradescantia fluminensis* dominating the ground layer in some areas.

The vegetation adjoining the Georges River in the management site was classified as Plant Community Type *ME018: Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin* and is equivalent to *River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions*, an Endangered Ecological Community (EEC) listed under the BC Act. This vegetation was cleared over a width of 20 metres for construction of the Rail Link. The 20 metre wide Rail Link is subject to rehabilitation through soil stabilisation and encouragement of groundcover growth.

3.1.4 Adjacent areas

Flora and fauna values in adjacent areas have been mapped in Figure 3-1 and Figure 3-2 and described below. This includes the Boot Land, the Georges River Riparian Corridor and the MIP West Precinct Stage 2 site.

It should be noted that though the adjacent MIP West Precinct site contains threatened species and ecological communities, it will be mostly cleared of native vegetation during construction of the MIP West Precinct and therefore these values have not been included. Some further conservation areas may remain depending on the outcome of the MIP West Precinct Stage 2 Approval.

Boot Land

The Boot Land lies adjacent to the eastern and southern boundaries of the operational facility and along a 380 metre length of the Rail Link (Figure 1-2). Five different Plant Community Types (PCTs), each associated with a threatened ecological community (TEC), are present in the Boot Land (refer to Figure 3-1 and Figure 3-2). The riparian woodland vegetation of Anzac Creek was identified as having a high potential for groundwater interaction. Other woodland vegetation was identified as having a moderate potential for groundwater interaction.

Six threatened flora species have been identified in the Boot Land and seven threatened fauna species have been either identified in the Boot Land or assumed to be present (refer to Table 3-2). Hollow-bearing trees were recorded in low densities and nest boxes have been installed to enhance arboreal fauna habitat.

An offset site – Wattle Grove offset area – has been established under the biobanking scheme in the Boot Land that will protect and enhance its ecological values. It will be managed in accordance with the *Moorebank Precinct Biodiversity Management Implementation Plan* and Biobanking Agreement (ID number BA341), which deals specifically with conservation lands.

Table 3-1: PCTs and equivalent TECs present within the Boot Land

Plant Community Type	TEC Name	BC Act Status	EPBC Act Status
<i>Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion</i>	<i>Cooks River/Castlereagh Ironbark Forest in the Sydney Basin bioregion</i>	Endangered	Critically Endangered
<i>Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion</i>	<i>Shale/Gravel Transition Forest in the Sydney Basin bioregion</i>	Endangered	Critically Endangered

Plant Community Type	TEC Name	BC Act Status	EPBC Act Status
<i>Coastal freshwater lagoons of the Sydney Basin Bioregion and South East Corner Bioregion</i>	<i>Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions</i>	Endangered	Not listed
<i>Hard-leaved Scribbly Gum - Parramatta Red Gum Heathy woodland of The Cumberland Plain, Sydney Basin Bioregion</i>	<i>Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion</i>	Vulnerable	Endangered
<i>Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion</i>	<i>Castlereagh Swamp Woodland</i>	Endangered	Not listed

Table 3-2: Threatened flora and fauna species present (or assumed present) within the Boot Land

Scientific Name	Common Name	BC Act Status	EPBC Act Status
Threatened Flora			
<i>Acacia bynoeana</i>	Bynoe's Wattle	Endangered	Vulnerable
<i>Acacia pubescens</i>	Downy wattle	Vulnerable	Vulnerable
<i>Grevillea parviflora subsp. parviflora</i>	Small-flowered Grevillea	Vulnerable	Vulnerable
<i>Hibbertia puberula subsp. puberula</i>	Guinea Flower	Endangered	Not listed
<i>Hibbertia fumana</i>	Hibbertia fumana	Critically Endangered	Not listed
<i>Persoonia nutans</i>	Nodding Geebung	Endangered	Endangered
Threatened Terrestrial Fauna			
<i>Cercartetus nanus</i>	Eastern Pygmy Possum	Vulnerable	Not listed
<i>Meridolum corneovirens</i>	Cumberland Plain Land Snail	Endangered	Not listed
<i>Myotis macropus</i>	Southern Myotis	Vulnerable	Not listed
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	Vulnerable	Not listed
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	Vulnerable	Not listed
<i>Phascolarctos cinereus</i>	Koala	Vulnerable	Vulnerable population
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable

Georges River Riparian Corridor

Riparian vegetation associated with Georges River is highly disturbed on both the western and eastern banks.

One PCT is present in the riparian corridor that is associated with a TEC (Table 3-3) and has a high potential for groundwater interaction. An abundance of trees supporting small to medium-sized branch hollows are located on the western and eastern banks of the Georges River, offering potential nesting and roosting habitat to hollow-dependent fauna. Nest boxes have been installed along the riparian corridor.

A diversity of microbat species has been recorded in Georges River riparian vegetation, including the threatened species listed in Table 3-4.

No threatened flora species have been identified in the Georges River riparian corridor.

Two offset sites, Casula offset area and Moorebank offset area, has been established under the biobanking scheme in the Georges River riparian corridor to protect and enhance its ecological values. They will be managed in accordance with the *Moorebank Precinct Biodiversity Management Implementation Plan*.

Table 3-3: PCTs and equivalent TECs present within the Georges River riparian corridor.

Vegetation Type	TEC Name	BC Act Status	EPBC Act Status
<i>Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin</i>	<i>River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South-east Corner bioregions</i>	Endangered	Not listed

Table 3-4: Threatened species present within the Georges River riparian corridor

Scientific Name	Common Name	BC Act Status	EPBC Act Status
<i>Myotis macropus</i>	Southern Myotis	Vulnerable	Not listed
<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	Vulnerable	Not listed
<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	Vulnerable	Not listed
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	Vulnerable	Vulnerable

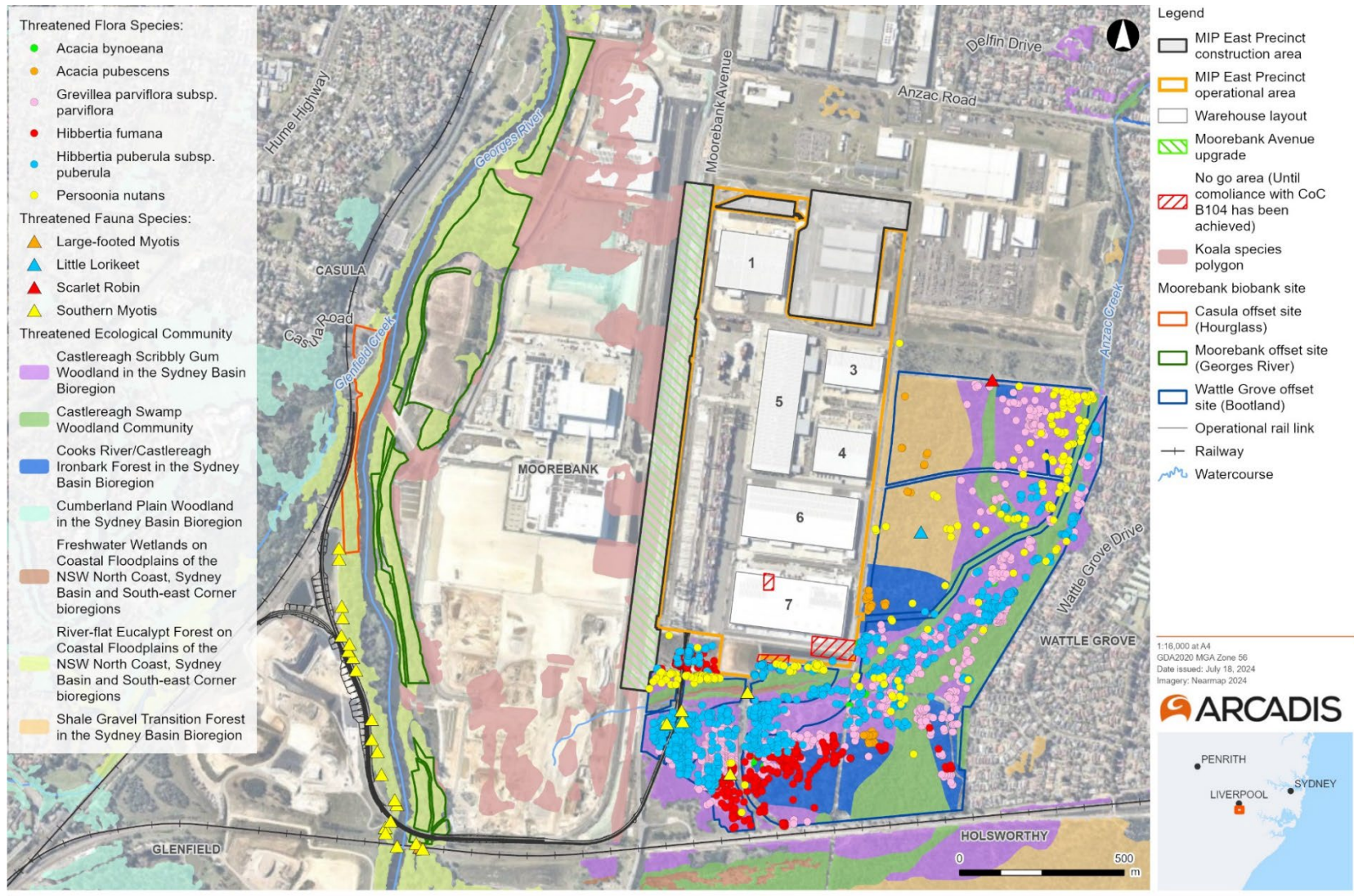


Figure 3-1: Flora and fauna values adjacent to the MIP East Precinct – Permanent Infrastructure

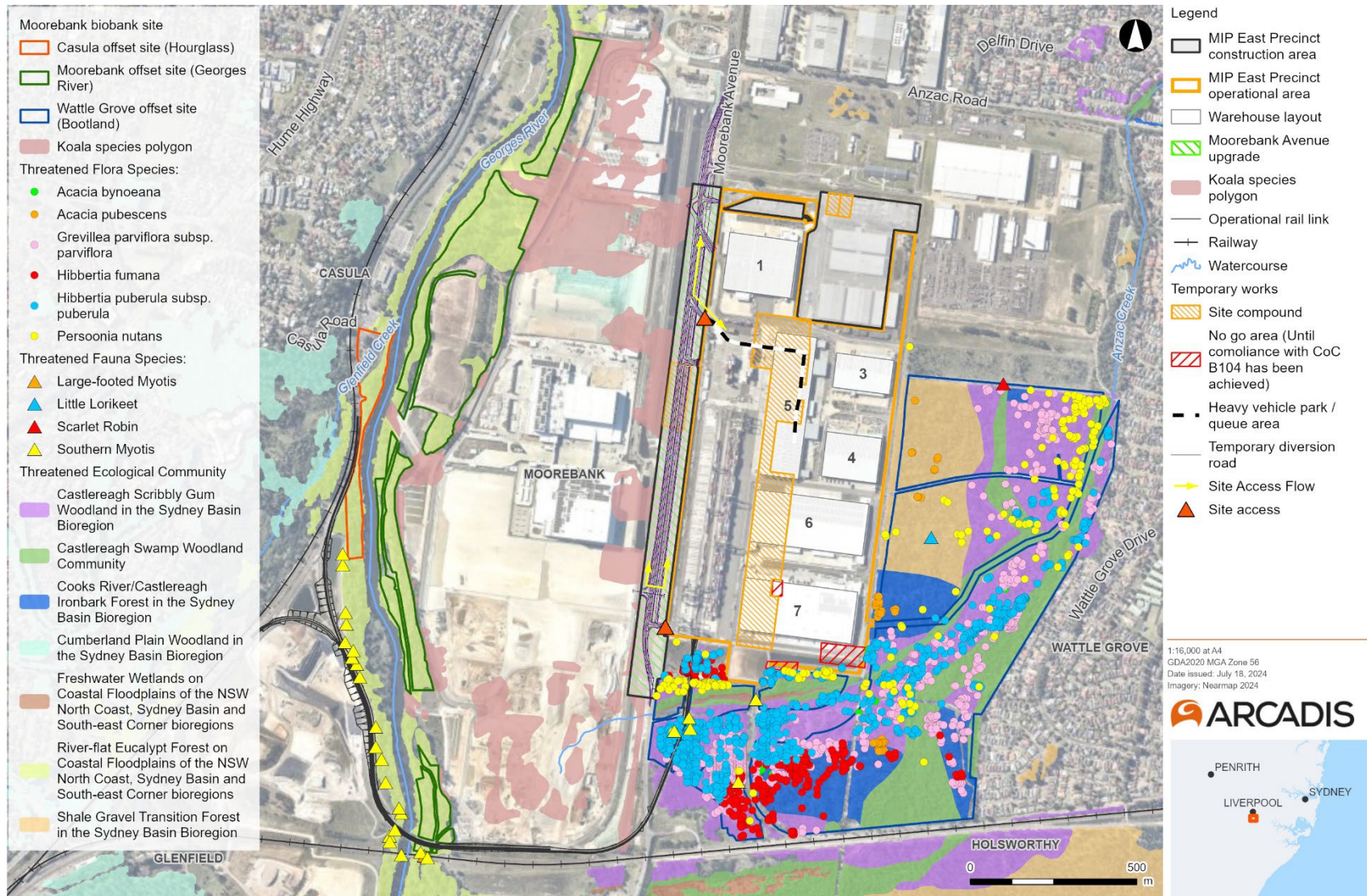


Figure 3-2: Flora and fauna values adjacent to the MIP East Precinct – Temporary works

3.2 Aspects, Impacts and Risks

3.2.1 Operational activities

The following operational activities have the potential to impact flora and fauna:

- Maintenance of stormwater management infrastructure including landscaping in bioswales
- Landscaping activities, planting and weeding
- Maintenance activities in the rail corridor
- Any works involving soil disturbance
- Bushfire reduction activities
- Noise-generating activities
- Plant and vehicle operation
- Truck movements
- Train movements
- Emergency response activities

3.2.2 Potential Operational Impacts

The potential flora and fauna impacts associated with specific operational activities are listed in Table 3-5. No native vegetation clearing works will be undertaken during the operational phase of the facility. All required vegetation clearing has been undertaken during pre-construction and construction phase of MIP East Precinct Stage 1 and MIP East Precinct Stage 2.

Table 3-5: Potential flora and fauna impacts associated with operational activities

Activity	Potential impacts
Maintenance of stormwater management infrastructure	<ul style="list-style-type: none"> • Weed spread • Risk of pathogen spread (e.g. chytrid)
Landscaping activities, planting and weeding	<ul style="list-style-type: none"> • Disturbance to fauna • Weed spread
Maintenance activities in the rail corridor	<ul style="list-style-type: none"> • Clearing of native vegetation • Impacts to TECs, threatened flora species • Weed spread
Works involving soil disturbance	<ul style="list-style-type: none"> • Weed spread • Pathogen spread (e.g. phytophthora)
Bushfire reduction activities: pruning, mowing, slashing	<ul style="list-style-type: none"> • Clearing of native vegetation • Impacts to TECs, threatened flora species • Weed spread
Noise and dust-generating activities	<ul style="list-style-type: none"> • Impacts to the roosting, breeding and foraging activities of locally occurring fauna, as a result of increased exposure to noise, dust, vehicles and people.

Activity	Potential impacts
Plant and vehicle operation	<ul style="list-style-type: none"> • Fauna injury or mortality as a result of collisions with vehicles or plant in the Facility or road network as a result of increased truck movements. • Impact to foraging, predation and mating behaviours of some flora and fauna species due to electric light spill.
Train movements	<ul style="list-style-type: none"> • Fauna injury or mortality as a result of train collision
Emergency response	<ul style="list-style-type: none"> • Removal of or damage to vegetation to facilitate emergency access • Fauna injury or mortality as a result of vehicle strike

3.3 Management Measures

This section describes the overall approach to managing and mitigating risks to flora and fauna during the operation of the Facility.

Management measures are summarised in Table 3-6. These measures are based on best practice and compliance requirements detailed in Section 2.2, as well as ESR (as MIP East Precinct Property Manager) and Qube’s (as IMEX and Rail Link Operations Manager) requirements and standards, which include, but are not limited to the following:

- LOGOS WHSMS-LOGOS-007 Incident Reporting & Management Procedure
- LOGOS Work Health & Safety (WHS) Management Plan
- Qube SHSMS-QH-02-PR-004 Legislative and Regulatory Obligations Procedure
- Qube SHEMS-QL-09-PR-0058 Consultation and Communication Procedure
- Qube SHEMS-QH-PR-0022 Corrective and Preventive Action Procedure
- Qube SHEMS-QL-13-PR-0126 Incident Reporting
- Qube SHEMS-QL-05-PR-0025 Records Management Procedure
- Qube SHSMS-QH-06-PR-0015 Environmental Aspects and Impacts Identification Procedure
- Qube SHEMS-QH-SHE-PO-012 Safety Health and Sustainability Policy.

Table 3-6: Management Measures

ID	Management Measure	Timing	Responsibility	Reference/Source
GENERAL				
FF-01(a)	Site inductions will include a briefing on the following: <ul style="list-style-type: none"> • The local threatened flora and native fauna of the site, their significance and protocols to be undertaken if they are encountered. • Location of no-go zones • The use and location of spill kits • Bushfire awareness. 	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(h) EPBC 2011/6229 (Annexure A)
FF-01(b)	Soil and mulch stockpiles will be located away from key stormwater flow paths to limit potential transport of these substances into nearby watercourses (such as Anzac Creek) via runoff	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC 2011/6229 (Annexure A)
FF-01(c)	Dust suppression activities on areas of exposed soil will be undertaken to minimise degradation of retained vegetation on land adjoining the Facility	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC 2011/6229 (Annexure A)
FF-01(d)	Stabilisation of disturbed areas, including mulching and revegetation will be undertaken as soon as practicable after disturbance and in accordance with the Riparian Vegetation Management Plan.	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act (Annexure A) Riparian Vegetation Management Plan
FF-01(e)	Management of a contaminant spill or leak will be undertaken in accordance with the Environmental Pollution Incident response outlined in Section 4.10 of the Operational Emergency Response Plan, which is an Appendix of the Operational Environmental Management Plan. Spill kits will be located throughout the Facility.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC 2011/6229 (Annexure A)

ID	Management Measure	Timing	Responsibility	Reference/Source
FF-01(f)	On declared 'Total Fire Ban' days, hot works will not be undertaken and there will be no: <ul style="list-style-type: none"> Grass or vegetation reduction works (including mowing/slashing) Arborist works (chainsaw) Vehicle operations in long grass. 	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC 2011/6229 (Annexure A)
FF-01(g)	Vehicles, plant and equipment will not block fire trails	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC 2011/6229 (Annexure A)
FF-01(h)	Access to the rail corridor will be controlled to ensure no unauthorised access to the rail corridor.	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(h)
WEED CONTROL				
FF-02	Control of priority weeds will be undertaken in accordance with the <i>Biosecurity Act 2015</i> .	Ongoing	SHEQ Manager/Advisor or MIP East Precinct Qube (for IMEX and Rail Link) Landscape contractor f	<i>Biosecurity Act 2015</i> EPBC Act CoA 5(h) (Annexure A) SSD 7628 B110 (i)
FF-03	Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the Facility to minimise the likelihood of transferring any plant material and soil.	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link) Landscape contractor	EPBC Act CoA 5(h) (Annexure A) SSD 7628 B110 (i)
FF-04	Regular, active management of weeds using manual removal or herbicide application in the rail corridor and vegetated areas in the Facility to prevent the spread into adjacent and nearby bushland.	Monthly – rail corridor Every two months – landscaped areas and stormwater infrastructure	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link) Landscape contractor	EPBC Act CoA 5(h) (Annexure A) SSD 6766 FCMM 8H SSD 7628 B110 (i)

ID	Management Measure	Timing	Responsibility	Reference/Source
FF-05	Vegetative material and topsoil that contains or is likely to contain priority weeds and propagules must be disposed of at an appropriate waste facility that accepts such material. The nearest facilities are located at: <ul style="list-style-type: none"> • Chullora (15 Muir Rd, Chullora NSW 2190) • Lucas Heights (New Illawarra Rd, Lucas Heights NSW 2234) 	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link) Landscape contractor	EPBC Act CoA 5(h) (Annexure A) SSD 7628 FCMM 4G SSD 7628 B110 (i)
FF-06	Any soil excavated from the Anzac Creek corridor must be disposed of in accordance with the guidelines in the <i>Alligator Weed Control Manual</i> (DPI 2007), as it will likely contain fragments of Alligator Weed.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628 B110 (i)
FF-07	Soil stripped and stockpiled from areas containing known weed infestations will be stored on cleared land at least 40 metres from native vegetation.	As required	Landscape contractor	SSD 7628 B110 (i)
PATHOGEN MANAGEMENT				
FF-08	Insecticide and fungicide treatment will be undertaken in all occurrences of insect attack or disease in landscaped vegetation.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628 B110 (iii)
FF-09	Vehicles, equipment, materials and footwear used in landscaping activities and activities involving soil disturbance will be cleaned on entry (free of soil, mud and/or seeds) to minimise the introduction or spread of <i>Phytophthora cinnamomi</i> .	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628B110 (iii)
FF-10	Insecticide and fungicide treatment will be undertaken in all occurrences of insect attack or disease in landscaped vegetation.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628 B110 (iii)
FF-11	In the event frogs are encountered on site and require relocation, a suitably qualified ecologist will be engaged to supervise relocation actions. If handling is deemed necessary by the ecologist, the risk of Chytrid pathogen transfer will be minimised by following the OEH <i>Hygiene Protocol for the Control of Disease in Frogs</i> (DECCW 2008) and will include: <ul style="list-style-type: none"> • Hands to be cleaned / disinfected between each frog or a new pair of disposable gloves used for each sample. 	As required	Suitably qualified and experienced ecologist	<i>Hygiene Protocol for the Control of Disease in Frogs</i> (DECCW 2008)

ID	Management Measure	Timing	Responsibility	Reference/Source
	<ul style="list-style-type: none"> A 'one bag – one frog / tadpole' approach to handling will be used where capture and relocation is necessary. Bags will not be reused. 			
FAUNA				
FF-12	<p>If an animal is injured, contact one a local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery immediately. Until the animal can be cared for by a suitably qualified animal handler, minimise stress to the animal and reduce the risk of further injury by:</p> <ul style="list-style-type: none"> Handling fauna with care and as little as possible. Covering larger animals with a towel or blanket and placing in a large cardboard box. Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark 	As required	All site staff and visitors SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628 FCMM 4F EPBC Act CoA 5(h) (Annexure A)
FF-13	<p>If fauna is present, allow that fauna to move through the Facility and off site. If fauna does not relocate off site, is injured or a threat is evident contact an ecologist, fauna handler, WIRES or local veterinary surgery as soon as practical to assist in relocation to adjacent retained habitat. SHEQ Manager/Advisor will be contacted immediately. Activities may need to cease if the animal is in danger or harmed until it has been relocated.</p>	As required	All site staff and visitors SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	<i>Biodiversity Conservation Act 2016</i>
FF-14	<p>Speed limits will be developed and implemented so as to minimise the potential for fauna to be struck by a vehicle within the facility. All vehicles and plant in operation on the SIMTA site are to adhere to site rules relating to speed limits.</p>	Ongoing	All site staff and visitors	EPBC Act CoA 5(h) (Annexure A)
FF-15(a)	<p>To minimise the potential impacts from feral fauna species and/or vermin the following measures will be implemented:</p> <ul style="list-style-type: none"> All general waste bins will be kept covered minimising accumulations of waste and packing material removing all waste from site on regular basis 	Ongoing	All site staff and visitors	SSD 7628 B110 (ii)
FF-15(b)	<p>If feral fauna species and/or vermin are identified in the Facility, the following steps must be implemented:</p> <ul style="list-style-type: none"> Identify the species. 	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628 B110 (ii)

ID	Management Measure	Timing	Responsibility	Reference/Source
	<ul style="list-style-type: none"> The SHEQ Manager/Advisor will engage a specialist contractor to determine its extent of occurrence and remove the species. Continue monitoring feral fauna species and/or vermin in accordance with the contractor's recommendations. 			
FF-15(c)	Any pits/trenches that are to remain open overnight, are to be securely covered. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC 2011/6229 (Annexure A)
FF-16	<p>If any Koalas are found on the Facility the SHEQ Manager/Advisor would be contacted immediately and operations in the immediate vicinity would cease, and the SHEQ Manager/Advisor will:</p> <ul style="list-style-type: none"> Stop activities in the vicinity of the koala Establish a 30m exclusion zone around the koala Engage an experienced and appropriately qualified wildlife handler Relocate the koala in appropriate surrounding bushland in consultation with OEH. - 	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	Best practice
THREATENED FLORA				
FF-17	Any works in the rail link, including weeding, bushfire hazard reduction and maintenance activities will be undertaken by a bush regeneration contractor with experience in threatened flora species identification or supervised by a suitably qualified ecologist.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(h)
FF-18(a)	Pre-clearance surveys will be completed by a bush regeneration contractor with experience in threatened flora species identification or suitably qualified ecologist prior to the commencement of maintenance or emergency response activities in the Rail Link. Surveys will target, as a minimum, <i>Acacia bynoeana</i> , <i>Grevillea parviflora</i> subsp. <i>parviflora</i> , <i>Hibbertia fumana</i> , <i>Hibbertia puberula</i> subsp. <i>puberula</i> , and <i>Persoonia nutans</i> .	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(h)
FF-18(b)	Records of cleared individuals of Nodding Geebung and stems of Small-flower <i>Grevillea</i> will be maintained throughout the lifecycle of the MIP East Precinct East Precinct and Operational Rail Link to ensure that the limits outlined in C'th CoA 5(d) are not exceeded.	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(d)

ID	Management Measure	Timing	Responsibility	Reference/Source
FF-18(c)	Results of targeted surveys for <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle (including the number of individuals recorded) and their location, no-go zones and the Facility boundary will be identified on all operational drawings as well as sensitive area drawings (refer to Figure 3-1 and Figure 3-2. Note: targeted surveys did not detect any <i>Hibbertia</i> sp. Bankstown on site or in adjacent areas).	Ongoing	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(e)
FF-18(d)	High visibility plastic screening, fencing or tape with "No-Go signage" will be installed to delineate the limits of clearing works and operations area, so as to not further encroach on EEC and the locations of threatened flora species including but not limited to <i>Hibbertia</i> sp. Bankstown and Bynoe's Wattle	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(e) EPBC 2011/6229 (Annexure A)
FF-19	<p>Upon detection of a threatened species the following steps must be followed:</p> <ul style="list-style-type: none"> • Stop all work that could result in harm to the threatened species, in the vicinity of the find. Immediately notify the SHEQ Manager/Advisor or delegate. An ecologist must confirm the presence of the threatened species. The SHEQ Manager/Advisor or delegate will then contact the relevant agencies as required. • An assessment is to be undertaken to identify the plant or animal to species level and the likely impact to the threatened species and appropriate management options, such as protection or re-location measures, developed in consultation with the relevant agencies. • Obtain any relevant licences, permits or approvals required if the threatened species is likely to be impacted. Consultation with OEH must be completed. • Recommence works once any approvals have been obtained and management and mitigation measures have been implemented. • Update plans and procedures as required. 	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	EPBC Act CoA 5(h)

ID	Management Measure	Timing	Responsibility	Reference/Source
REHABILITATION				
FF-20	Revegetation of riparian areas during construction will continue during the operational phase. Management of land disturbed as a result of construction will be undertaken in accordance with the Riparian Vegetation Management Plan	Initial planting and ongoing replacement planting to be determined through ongoing monitoring.	Landscape contractor SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 6766 FCMM 8B
BUSHFIRE				
Management measures detailed in the OERP				
FF-21	Within the Inner Protection Area (IPA) all trees and shrubs will be maintained in such a manner that the vegetation is not continuous and fuel loadings will be maintained to a maximum dry litter weight of less than 3 tonnes/hectares during the prescribed 'Bushfire Danger Period' (1 October – 31 March, or as declared by). The IPA is located adjacent to the asset and extends out from the buildings to the boundary of the site.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 6766 FCMM 8H
FF-22	Bushfire asset protection zones will be contained wholly within the site boundary and management of the inner protection zone will not impact on the Boot Land.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 7628 B111
FF-23	The full width of the rail link will be maintained in a low fuel state to help manage bushfire risk.	As required	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	SSD 6766 FCMM 8H

4 MONITORING AND REVIEW

4.1 Monitoring Requirements

Flora, fauna, water quality and other monitoring of the MIP East Precinct, Offset Sites, Anzac Creek and the Georges River during Operations will be conducted as per the requirement of this OFFMP and the CoC.

Flora and fauna monitoring requirements relevant to the OFFMP are summarised in Table 4-1. Aquatic habitat and water quality monitoring locations are shown on Figure 4-1.

Table 4-1: Monitoring Requirements

Monitoring Focus	Area/Location	Responsibility	Frequency	Reference/Source
Surface water quality Sediment monitoring Aquatic Macroinvertebrates Fish assemblage	Anzac Creek locations (See Figure 4-1 ⁶)	Aquatic ecologist	Twice annually (autumn and spring) for 5 years following completion of construction	SSD 7628 B43 & B106 Moorebank Precinct East - Stage 2 Project Baseline Aquatic Ecological Monitoring Programme (SSD 7628)
Surface water quality Aquatic Macroinvertebrates and water quality monitoring	Surface water quality in Georges River downstream site (See Figure 4-1) Upstream and downstream of the Rail Link bridge (See Figure 4-1)	Aquatic ecologist	Twice annually (autumn and spring) for 5 years following completion of construction (frequency determined by B43)	SSD 6766 FCMM 8F
Weed cover	MIP East Precinct, including landscaped areas, stormwater infrastructure and Rail Link	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	Every two months in line with the landscape and vegetation maintenance schedule	<i>Biosecurity Act 2015</i> EPBC Act CoA 5(h) (Annexure A) SSD 7628 B110 (i)
Riparian vegetation restoration	Georges River and Anzac Creek rail crossings	Ecologist/bush regeneration contractor	Quarterly for first 12 months then annually	Riparian Vegetation Management Plan SSD 7628 B110 (i)
Threatened flora occurrence	Whole MIP East Precinct	Ecologist	Annual in spring	EPBC Act CoA 5(h) Moorebank Precinct East - Stage 1 Project Threatened Flora Offset Management Plan

⁶ No upstream monitoring location on Anzac Creek as upstream location are located within the Moorebank Precinct West construction site

Monitoring Focus	Area/Location	Responsibility	Frequency	Reference/Source
Viability (condition and stressors) of native vegetation adjoining the rail easement, including vegetation adjoining populations of Nodding Geebung and Small-flower Grevillea	Native vegetation adjoining the rail easement	As per the Biobanking Agreement	In accordance with the Biodiversity Management Implementation Plan	EPBC Act CoA 5(i)
Feral fauna occurrence	Whole MIP East Precinct	SHEQ Manager/Advisor for MIP East Precinct and Qube (for IMEX and Rail Link) to engage contractor	If reported and treated, undertake monitoring every 3 months till species is no longer identified	SSD 7628 B110 (ii)
Inspect koala fencing	Boundary of the Facility	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)	Annual	Koala Management Plan (in preparation)
Nest boxes	Wattle Grove, Casula and Moorebank offset sites	Ecologist	Annual (spring)	Appendix F Nest Box Management Strategy of Construction Flora and Fauna Management Plan Moorebank Precinct East Stage 1 – RALP No. 1
Fauna connectivity across the Wattle Creek Offset Area	Anzac Creek Culvert	Ecologist	Annual in spring. One remote camera focussed at either dry cell for a minimum period of one month.	SSD 6766 C20

4.1.1 Monitoring Criteria

Monitoring criteria applicable to the OFFMP are provided in Table 4-2.

Table 4-2: Triggers for remedial measures

Monitoring Focus	Trigger	Action	Responsibility
Water quality	Substantial changes in water quality results Water quality outside the ANZECC 2000 Guidelines trigger values compared to baseline values Significant differences between water quality up and downstream of the rail link	Identify source or cause for reduced water quality and undertake corrective measures	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link) Aquatic ecologist
Aquatic habitat	Increased scour of bed and banks of waterways	Identify point source/s of increased flow velocities or changes in stream hydraulics and discuss with project engineers to determine best methods for flow reduction or rectification of stream hydraulics	SHEQ Manager/Advisor for MIP East Precinct Aquatic ecologist
Macroinvertebrates and fish assemblages	Reduction in species diversity and changes to assemblages/community structure indicating a reduction of sensitive taxa	Identify components causing decline. Assess feasibility of suitable corrective actions. If corrective measures can be implemented, these aspects are to be the focus of future monitoring. If corrective measures cannot be implemented, regulatory authority to be notified of change	SHEQ Manager/Advisor for MIP East Precinct Aquatic ecologist
Native vegetation adjoining the rail easement	A reduction in the viability of native vegetation including vegetation adjoining populations of Nodding Geebung and Small-flower Grevillea	Identify the source of impact on viability of native vegetation adjoining the rail easement. Identify whether an impact to the Nodding Geebung and Small-flower Grevillea has occurred. If corrective measures can be implemented, these aspects are to be the focus of future monitoring. If corrective measures cannot be implemented, regulatory authority to be notified of change	SHEQ Manager/Advisor for MIP East Precinct
Weeds	Weed infestations on the Facility Identification of weed spread into adjacent areas attributed to the facility Biosecurity direction issued from DPI	Implement weed controls in accordance with the Biosecurity Duties associated with the weed species	SHEQ Manager/Advisor for MIP East Precinct Qube (for IMEX and Rail Link)

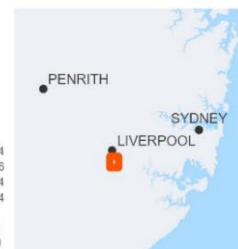
Monitoring Focus	Trigger	Action	Responsibility
Weeds	Priority weed cover in the Rail Link corridor is greater than 5 per cent.	Increase weed control and monitoring frequency	Landscape contractor (the Facility)
Feral fauna	If any feral fauna species is identified at the Facility	Undertake active management to eliminate the species from the Facility	Contractor
Nest boxes	Pest species Damaged boxes Excessive nesting material Inadequate drainage Inadequately functioning	Remove pests Replace damaged boxes or components Remove excessive nesting material Other remedial actions as required	Contractor
Koala fencing	Inspect for damage, holes, points of entry	Undertake repairs as needed	SHEQ Manager/Advisor for MIP East Precinct and Qube (for IMEX and Rail Link) to engage contractor
Fauna connectivity	Dry cells blocked by deposited coarse woody debris or other alluvial material Structure not being used by approaching fauna	Remove debris Investigate the potential for retrospectively fitting fauna furniture within the dry cells to promote use.	SHEQ Manager/Advisor to engage contractor



Legend

- MIP East Precinct construction area
- MIP East Precinct operational area
- Warehouse layout
- Water monitoring location
- Aquatic and water monitoring location
- Operational rail link
- Watercourse
- Railway

0 400 m



1:16,000 at A4
GDA2020 MGA Zone 56
Date issued: July 18, 2024
Imagery: Nearmap 2024



C:\Users\stemez4669\ARCADIS\30151719 - Moorebank Logistics Precinct - 02 GIS\A_Current\B_Maps\OEMP\Moorebank_OEMP_v3.aprx

Figure 4-1: Aquatic habitat and water quality monitoring Locations

4.2 Environmental Auditing

Compliance auditing against this OFFMP will be in accordance with the CoC and ISCA requirements as outlined within the overarching OEMP [PREC-QPMS-EN-APP-00001]. Auditing requirements applicable to this OFFMP are summarised in Table 4-3.

Table 4-3: Environmental Auditing Requirements

Requirement	Area/Location	Responsibility	Frequency
G16 (SSD 6766) C18 (SSD 7628) Independent environmental audit	All areas in MIP East Precinct	Independent auditor	Within 12 months of operation commencing Every 3 years thereafter unless directed by Secretary

4.3 Reporting

Reporting requirements for monitoring, auditing and as required in the CoC will be undertaken in accordance with the overarching OEMP [PREC-QPMS-EN-APP-00001].

The reporting requirements that are applicable to this OFFMP are summarised in Table 4-4.

Table 4-4: Environmental Reporting Requirements

Requirement	Area/Location	Responsibility	Frequency	Regulatory Authority
Riparian vegetation restoration	Georges River and Anzac Creek rail crossings	Ecologist/bush regeneration contractor	Quarterly for first 12 months then annually	DPE DPI
Nest box monitoring report	Wattle Grove, Casula and Moorebank offset sites	Ecologist	Annual	DPE
Aquatic ecology monitoring	Anzac Creek and Georges River	Aquatic Ecologist	Brief summary report following each biannual survey and final report following completion of surveys	DPE
Weed control records including pesticide applications	Any areas requiring weed control	SHEQ Manager / Advisor for MIP Precinct East	Ongoing	DPE
Threatened flora monitoring	Whole MIP Precinct	Ecologist	Annual (in Spring)	DCCEEW DPE
Koala monitoring (fencing and connectivity across the Wattle Creek Offset Area)	Boundary fences of the Facility Anzac Creek Culvert	Ecologist	Annual (in spring)	DPE

4.4 Review and Improvement

Review and improvement of this plan will be undertaken in accordance with the CoC and Section 6.2 of the OEMP [PREC-QPMS-EN-APP-00001]. Continuous improvement will be achieved by the ongoing evaluation of environmental management performance and effectiveness of this plan against environmental policies, objectives and targets. ESR will undertake an annual review the adequacy of the OEMP and subplans.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure, as outlined in Section 1.4.1 of the OEMP.

4.5 Incidents

All flora and fauna related incidents are to be reported and managed in accordance with the Incident Reporting & Management Procedure [WHSMS-LOGOS-007] and Qube's Incident Reporting and Management Procedure [SHEMS-QL-13-PR-0126]. Incidents are classified based on the incident's severity as shown in Section 4.6 of the OEMP [PREC-QPMS-EN-APP-00001].

All incidents will be managed and reported according to Section 4.6 of the OEMP.

4.6 Complaints

All complaints relating to flora and fauna issues during the operation of the Facility will be handled in accordance with Section 4.5.1 of the OEMP and the Community Communication Strategy (CCS).

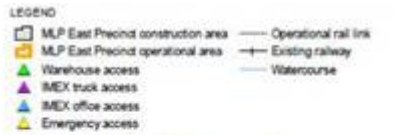

4.7 Non-Compliance, Non-Conformances and Corrective Actions

Non-compliance, non-conformances and resulting corrective actions relating to this OFFMP are to be managed in accordance with Section 6.4 of the OEMP.

APPENDIX A EVIDENCE OF CONSULTATION

Operational Flora and Fauna Management Plan (Revision 002 dated 2 April 2019)

Status of comments from OEH

Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed
03-May-2019	Figure 1-1: Site Location..... 8 Figure 1-2 Proposed staged/progressive staging of the MLP East Precinct..... Error! Bookmark not defined.	Addressed in Version 3. Also note that page numbers have been updated. Section 1 started on page 6, this has been corrected to page 1	06-May-2019	Noted	14-May-2019
03-May-2019	Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown..... 42 Figure 4-1 heading should be 'Aquatic habitat and water quality monitoring locations'	Table contents and figure title updated	06-May-2019	Noted	14-May-2019
03-May-2019	<i>The MLP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27 kilometres (km) south-west of the Sydney Central Business District and approximately 26 km west of Port Botany within the Liverpool Local Government Area. The MLP is divided into an East Precinct and a West Precinct, located east and west of Moorebank Avenue respectively. (Figure 1-1). The MLP East Precinct is operational and is managed under an Operation Environmental</i>	Section 1.1 updated - references re-inserted	06-May-2019	Noted	14-May-2019
03-May-2019	 <p>Figure 1-1: MLP East Precinct layout</p> <p>Figure 1-1: Site Location</p> <p>MLP East Precinct construction area shown in figure is incorrect</p>	Addressed in Version 3 updated figure included	06-May-2019	Noted	14-May-2019
03-May-2019	The proposed staged/progressive application of the OEMP is shown on Error! Reference source not found. , with estimated dates of operation detailed in Table 1-1. The first area to be operational, includes the IMEX, Rail Link and Warehouse 1 (Area 1).	Section 1.3 - references re-inserted	06-May-2019	Noted	14-May-2019
03-May-2019	 <p>Figure 1-2: Proposed staged/application of areas</p> <p>Figure 1-2 Proposed staged/progressive staging of the MLP</p> <p>MLP East Precinct construction area shown in figure is incorrect</p>	Addressed in Version 3 (Figure 1-2, page 9)	06-May-2019	Noted (although Figure 1-2 is on page 4 [as page numbering resets following page v])	14-May-2019

Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed
03-May-2019	As required by CoC A18 (SSD 7628) the Secretary will be notified one month prior to commencement of operation of each new area shown in Table 1-1 and Error! Reference source not found. The notification will include updated figures detailing the new areas of operation which will fall under the remit of the OEMP	Section 1.3.2 - references re-inserted Table 1.3 updated to include information on consultation	06-May-2019	Noted	14-May-2019
03-May-2019	The construction and operation of the MLP East Precinct has been designed to be consistent with the EPBC Act Approval conditions, where relevant. The Conditions of Approval (CoA) relevant to biodiversity are detailed in Table 2-1. Many of the CoA relate to pre-construction and construction activities but have been included to demonstrate compliance with the CoA. The table also specifically identifies when each of the Insert 'and this OFFMP' following 'biodiversity'	Section 2.2.1 updated		Noted	14-May-2019
03-May-2019	3.1 Existing Environment Flora and fauna values relevant to the MLP East Precinct are mapped in Figure 3-1 and have been summarised from the project documentation (See Section 2.2). Figure 3.1 only shows flora values – see comment below.	Figure 3-1 updated with fauna values and MLP boundary	06-May-2019	Noted	14-May-2019
03-May-2019	<i>The operational areas of the MLP East Precinct mostly comprise built infrastructure including the rail line, hardstand pavement (e.g. roads, car parks, loading and storage areas), warehousing, stormwater detention and water quality treatment structures and devices as described in Section 2 and shown in Figure 1-1. The entire MLP East Precinct, including the Rail Link, will be fenced.</i>	Section 3.1.1 - references re-inserted	06-May-2019	Noted	14-May-2019
03-May-2019	Bootland <i>The bootland lies adjacent to the eastern and southern boundaries of the operational facility and along a 380 m length of the Rail Link (Figure 1-1). Five different Plant Community Types (PCTs), each associated with a threatened ecological community (TEC), are present in the bootland (refer to Table 3-1). The riparian woodland vegetation of</i> Include reference to a revised Figure 3-1 showing the Bootland (and Georges River Riparian Corridor) area.	Section 3.1.4 - references re-inserted and reference to Figure 3-1 included after 'refer to Table 3-1'	06-May-2019	Noted	14-May-2019
03-May-2019	<i>An offset site - Wattle Grove offset area - would be established under the biobanking scheme in the bootland that would protect and enhance its ecological values. It would be managed in accordance with the Moorebank Precinct Biodiversity Management Implementation Plan.</i> Amend text here (and elsewhere in 3.1.4) from future to past tense (as the MIT BioBanking agreement has been finalised).	Section 3.1.4 - 'would' replaced with 'has/will' in reference to the offset area (change from future to past tense)	06-May-2019	Noted	14-May-2019
03-May-2019	A diversity of microbat species has been recorded in Georges River riparian vegetation, including the threatened species listed in Table 3-1 . Replace 'Table 3-1' with 'Table 3-4'	Reference to 'Table 3-1' corrected to 'Table 3-4' in regard to microbat species	06-May-2019	Noted	14-May-2019
03-May-2019	<i>Figure 3-1: Flora and fauna values adjacent to the MLP East Precinct</i> <ul style="list-style-type: none"> Recommend MLP East Precinct construction area be included. Only flora values are shown – amend figure to include fauna values (or amend heading and include an additional figure showing fauna values). 	Figure 3-1 updated with fauna values and MLP boundary	06-May-2019	Noted	14-May-2019



Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed														
03-May-2019	<p>Flora and fauna monitoring requirements relevant to the OFFMP are summarised in Table 4-1.</p> <ul style="list-style-type: none"> Replace 'Flora and fauna monitoring on' with 'Flora, fauna, water quality and other monitoring of'. Include sentence 'Aquatic habitat and water quality monitoring locations are shown in figure 4-1.' 	<p>Section 4.1 updated - '<i>Flora and fauna monitoring on</i>' replaced with '<i>Flora, fauna, water quality and other monitoring of</i>'</p> <p>Section 4.1 updated - inclusion of sentence referencing aquatic/water quality monitoring'</p>	06-May-2019	Noted	14-May-2019														
03-May-2019	<p>Table 4-1: Monitoring Requirements</p> <table border="1"> <thead> <tr> <th>Monitoring Focus</th> <th>Area/Location</th> </tr> </thead> <tbody> <tr> <td>Surface water quality</td> <td>Anzac Creek locations (AQ sites)</td> </tr> <tr> <td>Sediment monitoring</td> <td></td> </tr> <tr> <td>Aquatic Macroinvertebrate</td> <td>(See Error! Reference source not found.)</td> </tr> <tr> <td>Fish assemblage</td> <td></td> </tr> <tr> <td>Surface water quality</td> <td>Georges River (WM sites)</td> </tr> <tr> <td>Macroinvertebrate</td> <td>See Error! Reference source not found. (100m above and 100m below site)</td> </tr> </tbody> </table>	Monitoring Focus	Area/Location	Surface water quality	Anzac Creek locations (AQ sites)	Sediment monitoring		Aquatic Macroinvertebrate	(See Error! Reference source not found.)	Fish assemblage		Surface water quality	Georges River (WM sites)	Macroinvertebrate	See Error! Reference source not found. (100m above and 100m below site)	Table 4-1 - references re-inserted	06-May-2019	Noted	14-May-2019
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03-May-2019	<p>Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown</p> <ul style="list-style-type: none"> Heading (with 2nd sentence deleted) should be a note in the legend. Replace heading with 'Aquatic habitat and water quality monitoring locations.' The MPE site boundary is incorrect. AQ12 will also be a water quality monitoring location. 	<p>Figure 4-1 was updated in version 3 to address these issues (please note that 'AQ' labels were removed due to changes in numbering and new locations).</p> <p>All sites are now aquatic and water quality, expect for the site in Georges River. The legend has been updated to reflect this.</p>	06-May-2019	Noted	14-May-2019														
03-May-2019	<p>The reporting requirements that are applicable to this OFFMP are summarised in Table 4-3.</p> <ul style="list-style-type: none"> Replace 'Table 4-3' with 'Table 4-4'. 	Section 4.3 - references re-inserted	06-May-2019	Noted	14-May-2019														

Tilley, Heather

To: Ibrahim Awad
Subject: RE: Operational Flora & Fauna Management Plan - Moorebank Logistics Park - East Precinct - MPE Stage 2 B110 (SSD7628)

Hi Ibrahim,

OEH has reviewed the draft Operational Flora & Fauna Management Plan and provides the following comments.

Page	Screenshot of typo and/or other issues
v	<p>Figure 1-1: Site Location..... 8 Figure 1-2 Proposed staged/progressive staging of the MLP East Precinct..... Error! Bookmark not defined.</p>
v	<p>Figure 4-1: Aquatic Habitat monitoring on Georges river not show. Water monitoring on ANZAC Creek not shown..... 42</p> <ul style="list-style-type: none"> Figure 4-1 heading should be 'Aquatic habitat and water quality monitoring locations'
6	<p><i>The MLP aims to streamline the freight logistics supply chain from port to store, deliver savings to businesses and consumers, and help service the rapidly growing demand for imported goods in south-west Sydney. It is located approximately 27 kilometres (km) south-west of the Sydney Central Business District and approximately 26 km west of Port Botany within the Liverpool Local Government Area. The MLP is divided into an East Precinct and a West Precinct, located east and west of Moorebank Avenue respectively. (</i> Figure 1-1). The MLP East Precinct is operational and is managed under an Operation Environmental</p>
8	 <p>Figure 1-1: MLP East Precinct layout</p> <p>Figure 1-1: Site Location</p> <ul style="list-style-type: none"> MLP East Precinct construction area shown in figure is incorrect
9	<p>The proposed staged/progressive application of the OEMP is shown on Error! Reference source not found., with estimated dates of operation detailed in Table 1-1. The first area to be operational, includes the IMEX, Rail Link and Warehouse 1 (Area 1).</p>
10	 <p>Figure 1-2: Proposed staged/application of areas</p> <p>Figure 1-2 Proposed staged/progressive staging of the MLP</p> <ul style="list-style-type: none"> MLP East Precinct construction area shown in figure is incorrect
11	<p>As required by CoC A18 (SSD 7628) the Secretary will be notified one month prior to commencement of operation of each new area shown in Table 1-1 and Error! Reference source not found. The notification will include updated figures detailing the new areas of operation which will fall under the remit of the OEMP</p>
14	<p>The construction and operation of the MLP East Precinct has been designed to be consistent with the EPBC Act Approval conditions, where relevant. <u>The Conditions of Approval (CoA) relevant to biodiversity are detailed in Table 2-1.</u> Many of the CoA relate to pre-construction and construction activities but have been included to demonstrate compliance with the CoA. The table also specifically identifies when each of the</p> <ul style="list-style-type: none"> Insert 'and this OFFMP' following 'biodiversity'

26	<p>3.1 Existing Environment</p> <p>Flora and fauna values relevant to the MLP East Precinct are mapped in Figure 3-1 and have been summarised from the project documentation (See Section 2.2).</p> <ul style="list-style-type: none"> Figure 3.1 only shows flora values – see comment below. 														
26	<p><i>The operational areas of the MLP East Precinct mostly comprise built infrastructure including the rail line, hardstand pavement (e.g. roads, car parks, loading and storage areas), warehousing, stormwater detention and water quality treatment structures and devices as described in Section 2 and shown in Figure 1-1. The entire MLP East Precinct, including the Rail Link, will be fenced.</i></p>														
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28	<p>An offset site - Wattle Grove offset area - would be established under the biobanking scheme in the bootland that would protect and enhance its ecological values. It would be managed in accordance with the <i>Moorebank Precinct Biodiversity Management Implementation Plan</i>.</p> <ul style="list-style-type: none"> Amend text here (and elsewhere in 3.1.4) from future to past tense (as the MIT BioBanking agreement has been finalised). 														
29	<p>A diversity of microbat species has been recorded in Georges River riparian vegetation, including the threatened species listed in Table 3-1.</p> <ul style="list-style-type: none"> Replace 'Table 3-1' with 'Table 3-4' 														
30	<p><i>Figure 3-1: Flora and fauna values adjacent to the MLP East Precinct</i></p> <ul style="list-style-type: none"> Recommend MLP East Precinct construction area be included. Only flora values are shown – amend figure to include fauna values (or amend heading and include an additional figure showing fauna values). 														
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43	<p>The reporting requirements that are applicable to this OFFMP are summarised in Table 4-3.</p> <ul style="list-style-type: none"> Replace 'Table 4-3' with 'Table 4-4'. 														

Regards



Office of
Environment
& Heritage

Richard Bonner
**Senior Conservation Planning
Officer**
Greater Sydney Branch
Communities and Greater Sydney
Division

10 Valentine Avenue, Parramatta 2150
PO Box 644, Parramatta 2124
T: 02 9995 6917

From: Ibrahim Awad <iawad@tacticalgroup.com.au>

Sent: Thursday, 11 April 2019 1:47 PM

To: Richard Bonner <Richard.Bonner@environment.nsw.gov.au>

Cc: Susan Harrison <Susan.Harrison@environment.nsw.gov.au>; Nathan Cairney <ncairney@tacticalgroup.com.au>; Fei Chen <fchen@tacticalgroup.com.au>

Subject: Operational Flora & Fauna Management Plan - Moorebank Logistics Park - East Precinct - MPE Stage 2 B110 (SSD7628)

Hi Richard,

I just tried to call and left a message with regards the above.

I'm following up to ask if you've had the chance to review the 'Operational Flora & Fauna Management Plan' previously sent to you for review and comment on the 4th April (please see below email)?

We were hoping to get your comments on this by Mon 29 April to enable us to submit to DPE for approval and wanted to check if we can still expect to receive your comments by this date and/ or otherwise if you'd like to discuss your comments over the phone or in person? Could you please also let me know if you are not the right person to be consulting with on this and who the best alternate contact would be?

Thanks and look forward to speaking soon.

Ibrahim

Regards,

IBRAHIM AWAD
ENVIRONMENTAL MANAGER



LEVEL 15 | 124 WALKER STREET | NORTH SYDNEY | NSW | 2060

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M +61 426 832 993
E iawad@tacticalgroup.com.au
W www.tacticalgroup.com.au



Before printing this document, please consider the environment.

From: Ibrahim Awad

Sent: Thursday, 4 April 2019 9:41 AM

To: 'richard.bonner@environment.nsw.gov.au' <richard.bonner@environment.nsw.gov.au>;

'susan.harrison@environment.nsw.gov.au' <susan.harrison@environment.nsw.gov.au>

Cc: Nathan Cairney <ncairney@tacticalgroup.com.au>; Steve Ryan <sryan@tacticalgroup.com.au>; Ian Irwin <iirwin@tacticalgroup.com.au>; Fei Chen <fchen@tacticalgroup.com.au>

Subject: Operational Flora & Fauna Management Plan - Moorebank Logistics Park - East Precinct - MPE Stage 2 B110 (SSD7628)

Dear Richard, Susan

You may be aware the Moorebank Logistics Park – East Precinct is now moving towards operational phase and as part of the pre-operations planning approvals and conditions, we are required to consult with you on the Operational Flora & Fauna Management Plan (OFFMP). This document is now complete and is provided via the below Dropbox link for your review and comment.

https://www.dropbox.com/s/o51zabqwu84j1go/PREC-QPMS-EN-PLN-005%20OFFMP_Final%20for%20Consultation%20%28clean%29.pdf?dl=0

If it would help the consultation process, we would be pleased to meet with you to present the key features of this document, in particular the operational flora and fauna risks and proposed mitigations. Please let me know if you'd like to go ahead with this approach and your preferred meeting dates /time and suggested attendees.

We are hoping to finalise the consultations on this OFFMP by the 29th April '19 to allow these documents to be submitted to DPE for their review and approval shortly thereafter. If there is anything that we can do in addition to the above to support meeting that timeframe, please don't hesitate to let us know so that we can action accordingly.

You may also be interested to know that the Operations Environmental Management Plan (OEMP) for the Moorebank Precinct East has now been finalised and can made available to you upon request. The related sub-plans are still at various stages of development but can also be made available to you, upon request, and once complete.

Regards,

IBRAHIM AWAD
ENVIRONMENTAL MANAGER



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PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

APPENDIX B EPBC 2011/6229 ANNEXURE A REQUIREMENTS

Proposed Mitigation for flora and fauna	Where addressed in this FFMP
<p>The Part 3A Guidelines for Threatened Species Assessment (DEC & DPI 2005) require the description and justification of measures to mitigate adverse effects arising from development proposals. Primary consideration should be given to measures to avoid or minimise impacts; where avoidance and mitigation are not possible, offset strategies may be considered as a last resort. The steps in the avoid, mitigate and offset approach are as follows:</p> <ul style="list-style-type: none"> • Avoid areas of high biodiversity value wherever possible; • Mitigate actions and safeguard values identified for retention by prescribing appropriate controls; and • Compensate for or offset the removal of biodiversity values. <p>Avoid</p> <ul style="list-style-type: none"> • The identified ecological values should be avoided as far as practicable • The construction footprint of the proposal and construction access requirements should be reduced as far as possible to minimise impacts. • Avoid Endangered Ecological communities where possible. • Avoid known locations of threatened flora species where possible. • Avoid important fauna habitat features such as large hollow bearing trees where possible. <p>Mitigate (items relevant only to pre-construction or construction stage)</p> <ul style="list-style-type: none"> • Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction. • Clearing of vegetation is not to be undertaken during overland flow events. • Clearly identifying sensitive areas and areas for construction and managing clearing such that clearing activities are constrained to these approved areas only. • Undertake a pre-start up check for sheltering native fauna of all infrastructure, plant and equipment and/or during relocation of stored construction materials. • Fauna microhabitat such as logs should be removed from areas to be cleared and relocated to suitable nearby bushland areas in the presence of an ecologist. • Design and construction of rail crossings over Anzac Creek and Georges River to be in accordance with Fish Passage Requirements for Waterway Crossings (Fairfull and Witheridge 2003). • Minimise clearing and disturbance to the riparian zone where possible. • Frequent maintenance of construction machinery and plant will be undertaken to minimise unnecessary noise. • High visibility plastic fencing is to be installed to clearly define the limits of the works area to not further encroach on fauna habitat. • Undertake a two-stage approach to clearing: <ul style="list-style-type: none"> ○ Remove non-hollow bearing trees at least 48 hours before habitat trees are removed. 	<p>These requirements pertain to the pre-construction and construction stage. There will be no further clearing of native vegetation during the operation stage as outlined in Section 3.2.2.</p>

Proposed Mitigation for flora and fauna	Where addressed in this FFMP
<ul style="list-style-type: none"> ○ Hollow bearing trees are to be knocked with an excavator bucket or other machinery to encourage fauna to evacuate the tree immediately prior to felling. ○ Felled trees must be left for a short period of time on the ground to give any fauna trapped in the trees an opportunity to escape before further processing of the trees. ○ Felled hollow bearing trees must be inspected by an ecologist as soon as possible (not longer than 2 hours after felling). ● Clearance of native vegetation should be minimised as far as is practicable. ● Consider retention of some, or all, of the remnant scattered E. sclerophylla over patches of shrub and grass cover in the cleared grassland immediately south of the site, in landscaping works. ● The extent of, and limitations to, vegetation clearing would be clearly identified on construction plans. ● Fencing is to be installed delineating threatened species habitat to be retained. Appropriate warning signage is to be installed along this fencing at regular intervals. Site inductions are to include a briefing on the presence of threatened species and its habitat, its significance and locations and extents of no-go zones. ● Install appropriate drainage infrastructure (e.g. sediment basins, diversion drains), sediment and erosion controls prior to the commencement of construction. ● Construction disturbance areas will be clearly demarcated to avoid accidental clearing or stockpiling in riparian vegetation. ● Any additional construction areas, such as site offices, construction stockpile locations and machinery/equipment laydown areas are to be located, where possible, within existing cleared or disturbed areas. ● Extent of clearing should be fenced with highly visible temporary fencing to minimise any extension of clearing beyond the area necessary. ● A VMP should be prepared prior to construction, detailing restoration, regeneration and rehabilitation of areas of native vegetation in study area. The VMP should also detail appropriate management for the potential habitat of threatened plant species in the study area, including monitoring during and after construction works to ensure impacts are minimised. 	
<p>Mitigate (items relevant to operation stage)</p> <ul style="list-style-type: none"> a) Locate soil or mulch stockpiles away from watercourses and key stormwater flow paths to limit potential transport of these substances into the watercourses via runoff. b) Dust suppression activities to be undertaken where appropriate. c) Stabilisation of disturbed areas, including revegetation in accordance with the VMP, is to be undertaken as soon as practicable after disturbance. d) Emergency response protocols and procedures for implementation in the event of a contaminant spill or leak to be clearly articulated in the Construction Environmental Management Plan. e) Spill kits to be located to allow for timely response to uncontained spills. Site inductions are to include a briefing on the use of spill kits. f) Management of weeds in and adjacent to cleared areas will occur in accordance with a Weed Management Plan. This plan will include details relating to the monitoring, management and where necessary eradication of weeds, disposal of green waste, and vehicle/plant weed wash down protocols if required. 	<ul style="list-style-type: none"> a) FF-01(b) b) FF-01(c) c) FF-01(d) d) FF-01(e) e) FF-01(a) and FF-01(e) f) FF-02 to FF-07 g) FF-02 to FF-07 h) FF-03 i) FF-07 j) Section 3.1.4 k) FF-01 l) FF-15(c) m) FF-20 n) FF-18(d) o) Section 4.1 and Appendix A of the MIP East Precinct Stage 1 UDLP and Section 4.2 and Appendix A3 of the

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<p>g) Management of noxious weeds are to be undertaken in accordance with the <i>Noxious Weeds Act 1993</i>.</p> <p>h) Equipment used for treating weed infestation will be cleaned prior to moving to a new area within the project site to minimise the likelihood of transferring any plant material and soil.</p> <p>i) Soil stripped and stockpiled from areas containing known weed infestations are to be stored separately and are not to be moved to areas free of weeds.</p> <p>j) Consider the installation of nest boxes in woodland vegetation in the rail corridor that may offer alternative nesting habitat to hollow dependent species recorded in the study area.</p> <p>k) Site inductions are to include a briefing regarding the local fauna of the site and identification of protocols to be undertaken if fauna are encountered.</p> <p>l) If any pits/trenches are to remain open overnight, they are to be securely covered, if possible. Alternatively, fauna ramps (logs or wooden planks) are to be installed to provide an escape for trapped fauna.</p> <p>m) As soon as possible rehabilitation will commence where possible. Management of land disturbed as a result of construction works will occur in accordance with a VMP.</p> <p>n) High visibility plastic fencing is to be installed to clearly define the limits of the works area as to not further encroach on EEC and locations of threatened flora species.</p> <p>o) Landscaped zones to capture gross pollutants and oil and grits from pavement. These areas can be regularly maintained to remove rubbish and can be renewed on a regular basis.</p> <p>p) Bio-retention installed in base of channels and swales proposed to capture and store stormwater. This will consist of bio-filtration layers, planting and subsoil collection and drainage.</p> <p>q) Hot work not to be undertaken on declared total fire ban days.</p> <p>r) Vehicles and plant should not block fire trails.</p> <p>s) Bushfire awareness included in staff induction and in toolbox talks pre-commencement.</p> <p>t) Directional lighting will be used where lighting is required in construction areas.</p> <p>u) Dust suppression activities to be undertaken where appropriate.</p> <p>v) Speed limits will be developed so as to minimise the potential for fauna to be struck by a vehicle within the site. All vehicles and plant in operation on the site are to adhere to site rules relating to speed limits.</p> <p>w) If an animal is injured, contact one of the following local wildlife rescue agency (e.g. WIRES) and/or veterinary surgery immediately</p> <p>x) Until the animal can be cared for by a suitably qualified animal handler, if possible minimise stress to the animal and reduce the risk of further injury by:</p> <p>y) Handling fauna with care and as little as possible.</p> <p>z) Covering larger animals with a towel or blanket and placing in a large cardboard box.</p> <p>aa) Placing small animals in a cotton bag, tied at the top.</p> <p>bb) Keeping the animal in a quiet, warm, ventilated and dark</p> <p>cc) Weed infestations that are identified during the operation of the proposal are to be managed in accordance with the removal methods outlined in the Weed Management Plan.</p>	<p>MIP East Precinct Stage 2 UDLP</p> <p>p) Section 4.4, Section 4.5, Section 6.2 and Appendix A of the MIP East Precinct Stage 1 UDLP and Section 4.1 and Appendix A3 of the MIP East Precinct Stage 2 UDLP</p> <p>q) FF-01(f)</p> <p>r) FF-01(g)</p> <p>s) FF-01(a)</p> <p>t) N/A as applies to construction</p> <p>u) FF-01(c)</p> <p>v) FF-14</p> <p>w) FF-12</p> <p>x) FF-12 to FF-13</p> <p>y) FF-12 to FF-13</p> <p>z) FF-12 to FF-13</p> <p>aa) FF-12 to FF-13</p> <p>bb) FF-12 to FF-13</p> <p>cc) FF-02 to FF-07</p>

