CONSTRUCTION FLORA AND FAUNA MANAGEMENT PLAN

Moorebank Precinct West Stage 2

13 DECEMBER 2023

MOOREBANK PRECINCT WEST STAGE 2

Construction Flora and Fauna Management Plan

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REVISIONS

Revision	Date	Description	[redacted] roved by
A	14/09/2018	For client review	
B	02/11/2018	Issued to ER	
C	04/01/2018	Updated to address ER comments	
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G	29/11/2019	Update to address Final Conditions of Consent and OEH and EES comments	

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H	19/12/2019	Update to address ER comments		
I	14/01/2020	Update to address additional ER comments		
J	25/02/2020	Update to address DPIE comments		
K	10/03/2020	Update to address DPIE comments		
L	22/02/2021	Updated to reflect annual review		
M	17/03/2021	Updated in response to approval of MPW Stage 2 MOD1		
N	2/12/2021	Updated in response to approval of MPW Stage 2 MOD2		
O	7/09/2022	Updates to site figures and rebranding.		
P	13/12/2023	Update to figure 1-1 in accordance RFMA 29 - Environmental Representative approval.		

ACRONYMS AND DEFINITIONS

Acronym/Term	Meaning
Area of Occupancy	The area within the extent of occurrence, which is occupied by a taxon, excluding cases of vagrancy
BAR	Biodiversity Assessment Report
BC Act	*Biodiversity Conservation Act 2016*
Boot Land	The area of land located to the south-east of the Project site, which comprises the offset area for the Moorebank Precinct
BOS	Biodiversity Offset Strategy
CBD	Central Business District
CEMP	Construction Environmental Management Plan
CFFMP	Construction Flora and Fauna Management Plan
CoC	Conditions of Consent
Contractor's CM	Contractor's Construction Manager
Contractor's EM	Contractor's Environmental Manager
DJLU	Defence Joint Logistics Unit
CSWMP	Construction Soil and Water Management Plan
DAWE	Department of Agriculture, Water and the Environment (formerly DotEE)
DIPNR	Department of Infrastructure Planning and Natural Resources
DNSDC	Defence National Storage and Distribution Centre
DPIE	Department of Planning, Industry & Environment
DAWE	Department of Agriculture, Water and the Environment
DotEE	Commonwealth Department of the Environment and Energy merged with all functions of the Department of Agriculture (February 2020) to form the Department of Agriculture, Water and the Environment (DAWE)
EEC	Endangered Ecological Community
EES	Environment, Energy and Science (formerly OEH)
EIS	Environmental Impact Statement
EO	Environmental Officer
EPA	NSW Environment Protection Authority
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EWEMP	Early Works Environmental Management Plan
FBA	NSW *Framework for Biodiversity Assessment* (OEH 2014)
FCMM	Final Compilation of Mitigation Measures. These are the management and mitigation measures (2 November 2018) included in Appendix 2 of the SSD 7709 development consent.
FM Act	NSW *Fisheries Management Act 1994*
GFA	Gross floor area
ha	hectare

Acronym/Term	Meaning
IMT facility	The IMT facility includes the construction of the following key components together comprising the Intermodal Terminal (IMT): • Truck processing and loading areas • Rail loading and container storage areas • Administration facility and associated car parking.
IPC	Independent Planning Commission
km	kilometre
m	metre
MAUW	Moorebank Avenue Upgrade Works
MOD 1	Modification 1 to SSD 7709 approved on 24 December 2020
MPE	Moorebank Precinct East
MPW	Moorebank Precinct West
MPW Site	The site at Moorebank as approved by the Concept Plan (SSD 5066)
Native vegetation	Areas of Plant Community Types (PCT) mapped by Arcadis and WSP Parsons Brinckerhoff in the Moorebank Precinct (including Moorebank Precinct East and Moorebank Precinct West) being a consolidation of all assessments for the Moorebank Precinct conducted since 2011.
Native vegetation clearance	Native vegetation clearance includes the cutting down, felling, thinning, logging, removing, killing, destroying, poisoning, ringbarking, uprooting or burning of any native vegetation.
OEH	Office of Environment and Heritage (now EES)
OEMP	Operation Environmental Management Plan
PAC	Planning Assessment Commission
PCT	Plant Community Type
PE	Project Ecologist
Project, the	MPW Stage 2 Project, involves the construction and operation of a multi-purpose IMT facility, Rail link connection, warehousing and upgraded intersection on Moorebank Avenue intersection as described in Section 4.1 of the EIS and as approved under SSD 7709.
RDO	Rostered Day Off
REMM	Revised Environmental Management Measure. These are the management and mitigation measures presented in the MPW Concept Plan Supplementary RtS (August 2017).
RtS	Response to Submissions
SIMTA	Sydney Intermodal Terminal Alliance
SSD	State significant development
SSFL	Southern Sydney Freight Line
TEC	Threatened Ecological Community
JR Warehouse	The warehouse known as Warehouse JR, identified as Warehouse 5 in the plan titled ‘Precinct Modification Plan — Proposed’ (Drawing No JR-SK-A-0-9402, Revision G), prepared by Bell Architecture and dated 16 October 2020)
JN Warehouse	The warehouse known as Warehouse JN, identified as Warehouse 6 in the plan titled ‘Precinct Modification Plan — Proposed’ (Drawing No JR-SK-A-0-9402, Revision G), prepared by Bell Architecture and dated 16 October 2020)

Acronym/Term	Meaning
WIRES	NSW Wildlife Information, Rescue and Education Service
WoNS	Weed of National Significance

CONTENTS

APPENDICES

APPENDIX A – SECONDARY CONDITIONS MATRICES

APPENDIX B – CLEARING PROTOCOL

APPENDIX C – WEED, PEST AND VERMIN MANAGEMENT PROTOCOL

APPENDIX D – THREATENED SPECIES PRESENT ON SITE

APPENDIX E – NEST BOX ADVICE

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

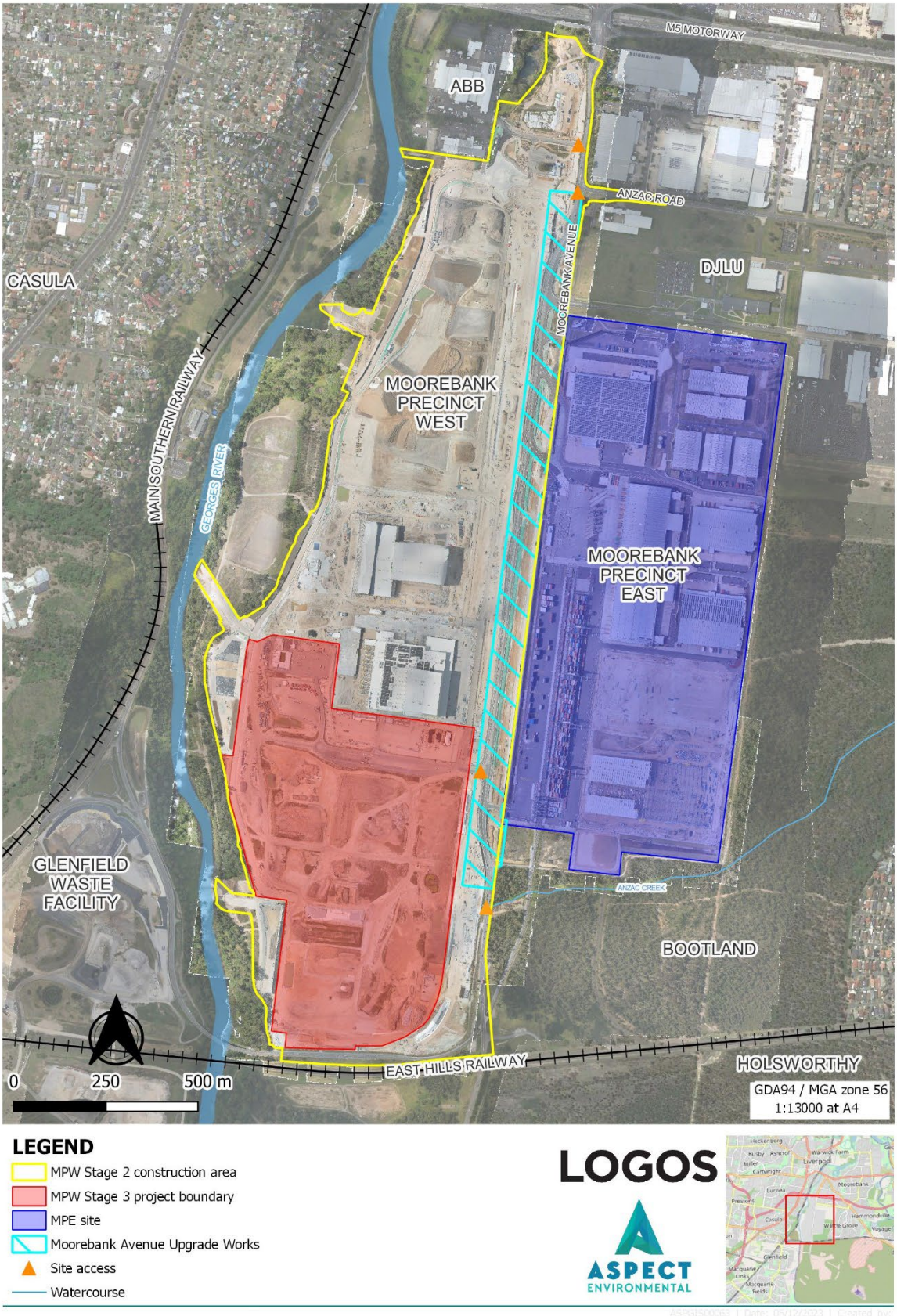
The Sydney Intermodal Terminal Alliance (SIMTA) received approval for the construction and operation of Stage 2 of the Moorebank Precinct West (MPW) Project (State Significant Development (SSD) 7709) (the Project), and subsequently Modification 1, which comprises the second stage of development under the MPW Concept Approval (SSD 5066). This Construction Flora and Fauna Management Plan (CFFMP) has been developed to manage impacts to threatened and protected flora and fauna species, populations and communities and terrestrial biodiversity during the construction of Stage 2 of the MPW Project.

Within this CFFMP, a strategy has been established to demonstrate the Construction Contractor's approach to the management of terrestrial biodiversity values. This CFFMP addresses the relevant requirements of the Development Consent, 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 terrestrial biodiversity during construction of the Project.

The Project involves the construction and operation of a multi-purpose Intermodal Terminal (IMT) facility, rail link connection, warehousing, freight village, and upgrades to the Moorebank Avenue and Anzac Road intersection. Refer to Section 1.2 of the CEMP for a detailed description of the Project.

The location of the Project site is shown in Figure 1-1.

Figure 1-1 Site Location



1.1 Development Consent

The MPW Stage 2 Project has been assessed by the Department of Planning, Industry and Environment (DPIE) under Part 4, Division 4.1 (now Division 4.7 as of 1 March 2018) of *the Environmental Planning and Assessment Act 1979* (EP&A Act) as State Significant Development (SSD). The Independent Planning Commission (IPC) granted approval for the MPW Stage 2 Project on 11 November 2019 and is subject to the CoC (SSD 7709) with MOD1 approved on 24 December 2020. The Project, including its potential impacts, consultation and proposed mitigation and management is documented in the following suite of documents:

- State significant development (SSD) Consent SSD 7099
- Modification to Development Consent SSD 7709 MOD1
- Moorebank Precinct West – Stage 2 – Environment Impact Statement (Arcadis Australia Pacific Pty Limited, October 2016)
- Moorebank Precinct West – Stage 2 – Response to Submissions (Arcadis Australia Pacific Pty Limited, July 2017)
- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval (No. 2011/6086) granted on 27 September 2016.

1.2 Purpose and Application

This CFFMP has been developed to address the CoC, Final Compilation of Mitigation Measures (FCMM), and Revised Environmental Management Measures (REMM), and is based upon the Amended Proposal Biodiversity Assessment Report (BAR) (Arcadis 2019) prepared by accredited ecologists to support the *Moorebank Precinct West – Stage 2 Proposal Response to Submissions* (Arcadis, 2017). This CFFMP aims to demonstrate how terrestrial biodiversity will be managed during construction of the Project.

This CFFMP provides methods to monitor, measure, reduce and mitigate impacts on biodiversity by the contractor during the construction of the Project, including all sub-contractors and consultant partners.

This CFFMP was developed in reference to the following documents:

- *Moorebank Precinct West – Stage 2 Amended Proposal Biodiversity Assessment Report*, prepared for SIMTA (Arcadis, 2019a)
- *Moorebank Intermodal Freight Terminal – Ecological Impact Assessment,* prepared for the Moorebank Intermodal Company (Parsons Brinckerhoff, 2014)
- *Biodiversity Offset Strategy*. Appendix C of the Moorebank Intermodal Terminal Response to Submissions Report (Parsons Brinckerhoff, 2015a)
- *Framework for Biodiversity Assessment credit report*. Appendix A of Appendix C of the Moorebank Intermodal Terminal Response to Submissions Report (Parsons Brinckerhoff, 2015b)
- *Biodiversity Offset Areas Biodiversity Assessment Report*. Appendix A of the Moorebank Intermodal Terminal Supplementary Response to Submissions Report (Parsons Brinckerhoff, 2015c).

It is noted that the footprint of the Moorebank Avenue Upgrade Works (MAUW) and associated works overlaps both the MPE Stage 2 (SSD 7628) project footprint and the MPW Site, (Figure 1-1). Although these works are currently, and will continue to be, undertaken as part of the MPE Stage 2 Project, stockpiling of material excavated as part of MAUW is located within the MPW footprint and is being managed under MPW CEMP and subplans. Once the MAUW and associated works have been completed the area will revert to management under the MPW Stage 2 CEMP and this CFFMP.

The most recent, approved version of the plan will be implemented to manage the Project activities. Construction will not commence until this CFFMP has been approved by the Planning Secretary. Construction will be undertaken in accordance with the most recent, approved version of this CFFMP.

1.3 Objectives and Targets

Table 1-1 outlines the objectives and targets set out for the Project for the management of flora and fauna during construction of the Project. These objectives and targets were developed in consultation with the

technical specialist, the Proponent and the Principal's Representative, based on collective industry experience and standard practice.

Table 1-1 Objectives and Targets

Objective	Target	Timeframe	Accountability
No impact to biodiversity values beyond the prescribed construction area	No more than 42.89 hectares of native vegetation to be cleared including clearing within the MAUW footprint	During construction	Contractor's CM
Minimise the loss of key fauna habitat and retain biodiversity values	No net loss of habitat within the conservation area	During construction	Principal's EM
Minimise the impacts to fauna on site	100% of staff inducted in the requirements of the CFFMP	During construction	Contractor's EM
	Relevant fauna management controls in place prior to the commencement of works	During construction	Site Supervisor

1.4 Consultation

This CFFMP has been prepared in consultation with the Environment, Energy and Science (EES) (formerly the Office of Environment and Heritage (OEH)) as outlined in Table 1-2. Supplementary information to support the consultation undertaken is included in Table 1-2 and Appendix E.

Table 1-2 Consultation Summary

Agency	Date	Person Contacted	Comment	Status
Environment, Energy and Science (EES)	11/10/2019	OEH/EES Representative	SIMTA representative initiated consultation with OEH/EES	Open
	18/10/2019	OEH/EES representative	SIMTA representative left a voice message for OEH/EES representative. Follow up email sent	Open
	22/10/2019	SIMTA representative	OEH/EES representative informed SIMTA representative that they would begin review of the CFFMP	Open
	22/10/2019	OEH/EES representative	SIMTA representative requested a timeframe for when comments would be received on the CFFMP from OEH/EES representative	Open
	7/11/2019	OEH/EES representative	SIMTA representative left a voice message for OEH/EES representative following up on status of comments on the CFFMP	Open
	12/11/2019	OEH/EES representative	SIMTA representative left a voice message for OEH/EES representative following up on status of comments on the CFFMP	Open
	20/11/2019	OEH/EES representative	SIMTA representative had a phone call with OEH/EES representative to follow up status of comments on the CFFMP	Open

Agency	Date	Person Contacted	Comment	Status
	22/11/2019	OEH/EES representative	SIMTA representative emailed OEH/EES representative to follow up status of comments on the CFFMP	Open
	25/11/2019	SIMTA representative	OEH/EES representative emailed SIMTA representative their comments on the CFFMP	Open
	09/12/2020	OEH/EES representative	SIMTA representative called OEH/EES representative following up on CFFMP comments	Open
	10/12/2020	OEH/EES representative	SIMTA representative called OEH/EES representative following up on CFFMP comments	Open
	10/12/2019	SIMTA Representative	OEH/EES representative emailed SIMTA representative to outline that they would respond to the latest SIMTA communication by 13/12/2020	Open
	13/12/2019	SIMTA Representative	Additional minor editorial updates issued to SIMTA representative	Open
	20/01/2020	DPIE representative	Written confirmation from OEH/EES representative that OEH/EES has no further comments on the CFFMP	Closed

2 ENVIRONMENTAL MANAGEMENT

2.1 Legal and Other Requirements

Table 2-1 details the legislation, planning instruments and guidelines considered during development of this CFFMP.

Table 2-1 Legislation, Planning Instruments and Guidelines

Legislation	Description	Relevance to this CFFMP
Environmental Planning and Assessment Act (EP&A) 1979	This Act establishes a system of environmental planning and assessment of development proposals for the State.	One of the Objects of the Act is "to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats". The preparation of this CFFMP is a CoC of the Development Consent issued by the Planning Assessment Commission under Section 89E of the *Environmental Planning and Assessment Act* 1979.
Environment Protection and Biodiversity Conservation (EPBC) Act 1999	The main purpose of this Act is to provide a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, defined in the EPBC Act as Matters of National Environmental Significance (MNES), the impacts of Commonwealth activities on the environment and the impact to the environment on Commonwealth land. In accordance with Sections 67 and 67A of the EPBC Act, any works that have the potential to result in a significant impact on any MNES or on Commonwealth land are considered 'controlled actions' and require a referral to the Federal Minister for the Environment for approval.	The Project was determined to be a controlled action under the EPBC Act, as a result of the Project's likely impacts on listed threatened species and communities and Commonwealth land. This CFFMP identifies measures to avoid and minimise impacts on threatened species and communities listed under the EPBC Act, that are known or considered likely to occur in the Project site.
Biodiversity Conservation (BC) Act 2016	This Act broadly incorporates similar objectives to those identified in the Threatened Species Act (TSC Act) (repealed 25 August 2017), and additionally seeks to establish a framework for assessment and offsetting of development impacts as well as investment in biodiversity conservation.	This CFFMP identifies measures to avoid and minimise impacts on threatened species and communities listed under the BC Act, that are known or considered likely to occur in the Project site.
Biosecurity Act 2015 (*Noxious Weeds Act* 1993 repealed)	This Act repeals the *Noxious Weed Act* 1993 as of July 1, 2017, as such, the *Noxious Weed Act* 1993 is not included in this CFFMP. The primary objective of the Act is to provide a framework for the prevention, elimination and minimisation of biosecurity risks posed by biosecurity matters, dealing with biosecurity matters, carriers and potential carriers.	This CFFMP identifies measures to manage weeds and pests that are in the Project site.

Legislation	Description	Relevance to this CFFMP
	Division 2 of the Act defines local control authorities for weeds. Schedule 1 outlines special provisions relating to weeds, including the duty of land occupiers to control and manage weeds.	
Fisheries Management (FM) Act 1994	This Act aims to conserve, develop and share the fishery resources of the State for the benefit of present and future generations, including conserving threatened species, populations and ecological communities of fish and marine vegetation.	Fish habitat is associated with Anzac Creek and Georges River. The Project will not directly impact this habitat. Management measures identified in Section 3.3 aim to minimise indirect impacts on these waterways.
Prevention of Cruelty to Animals Act 1979	This Act aims to prevent cruelty to animals, promote the welfare of animals by requiring a person in charge of an animal to provide care for the animal, treat the animal in a humane manner, and ensure the welfare of the animal.	The implementation of the Clearing Protocol provided in Appendix B will avoid and minimise injury and mortality of fauna that occur within the construction footprint. Management measures are provided in this CFFMP for the management and treatment of any injured fauna species.
Biodiversity Offsets Policy for Major Projects	This policy was released in October 2014 and is applicable to projects that are SSD or State Significant Infrastructure (SSI) under the EP&A Act.	A Biodiversity Offset Strategy is being prepared for the project, to offset the unavoidable loss of threatened species and ecological communities from the construction footprint.
Pesticides Act 1999 and *Pesticides Regulation* 2017	This Act controls the use of pesticides in NSW and aims to reduce risks to human health, the environment, property, industry and trade. Herbicides are included as a pesticide by definition under the Act. The Act defines prescribed pesticide works. The Regulation identifies licensing, qualification, record and notification requirements.	A Weeds, Pest and Vermin Management Plan (Appendix C) has been prepared to manage weeds, pests and vermin found on the project site.

Guidelines and policy documents relevant to biodiversity and this CFFMP include, but are not limited to, the following publications:

- *Hygiene Protocol for the control of Disease in Frogs* (DECC 2008)
- *Code of Practice for Injured, Sick and Orphaned Protected Fauna* (OEH 2011)
- *Code of Practice for Injured, Sick and Orphaned Flying-foxes* (OEH 2012)
- *Code of Practice for Injured, Sick and Orphaned Macropods* (OEH 2018)
- *Code of Practice for Injured, Sick and Orphaned Birds of Prey* (OEH 2016)
- *Florabank Native Seed Collection Code of Practice* (Greening Australia NSW 1999)
- *Guidelines for the Translocation of Threatened Plants in Australia – Second Edition* (Australian Network for Plant Conservation 2004).

Where updated or revised versions of guidelines, protocols, standards or policies, or a replacement of them are available, the most recent versions should be applicable to this Plan.

2.1.1 Compliance Matrices

The Project is being delivered under Part 4, Division 4.7 of the EP&A Act. The CoC include requirements to be addressed in this CFFMP and delivered during the Project. Primary Conditions specific to the development of this CFFMP are outlined in the following tables within this section; Secondary Conditions which are related to the environmental aspects associated with the plan are detailed within Appendix A.

Table 2-2 Conditions of Consent (CoC)

CoC	Requirement	Plan Section	How Addressed
Primary Conditions			
B154	Prior to clearing of native vegetation, the Applicant must prepare a Construction Flora and Fauna Management Plan (CFFMP) and submit it to the Planning Secretary for approval. The CFFMP must be developed in consultation with OEH.	This CFFMP Section 1.4.	This CFFMP has been developed to comply with the CoC, written directions of the Planning Secretary, amended development layout and management and mitigation measures. This CFFMP has been developed in consultation with OEH/ESS as outlined in Section 1.4.
B155	The CFFMP must form part of the CEMP required by Condition C2 and, in addition to the general management plan requirements listed in Condition C1, the CFFMP must include the following:		
	a) measures to minimise the loss of key fauna habitat including tree hollows and koala feed trees;	Section 3.3	Section 3.3 includes mitigation measures to minimise the loss of fauna habitat including koala feed trees.
	b) measures to minimise the impacts on fauna on site; and	Section 3.3	Section 3.3 includes mitigation measures to minimise the impact to fauna.
	c) measures to ensure biodiversity values not intended to be impacted are protected including mapping of protected/ “NO-GO” areas.	Section 3.3 Appendix B – Clearing Protocol	Section 3.3 includes mitigation measures to ensure biodiversity values are protected. Appendix B provides details on the clearing protocol for the Project.
	Note: *A version of the CFFMP is to be submitted prior to any clearing required to conduct remediation. In accordance with the definition of construction, that version of the CFFMP can be prepared and submitted for approval as a standalone document prior to any clearing required to conduct remediation, and a full CEMP does not need to be submitted at that point in time.*		Construction will not commence until this CFFMP has been approved.
C1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:		

CoC	Requirement	Plan Section	How Addressed
	a) detailed baseline data;	Section 3.1	Section 3.1 describes the existing flora and fauna environment.
	b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 2.1	Section 2.1 provides a list of the relevant statutory requirements required for the Project.
	(ii) any relevant limits or performance measures and criteria; and	Section 1.3	Section 1.3 identifies performance measures /criteria (objectives) and performance indicators (targets).
	(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;		
	c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 3.3	Section 3.3 identifies the flora and fauna specific management measures for the Project.
	d) a program to monitor and report on the: (i) impacts and environmental performance of the development;	Section 4	Section 4 outlines the program for monitoring and review.
	(ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 4.3	Section 4.3 outlines the procedure for review and improvement of measures set out in this CFFMP.
	e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Appendix D of the CEMP – Unexpected Finds Protocol	The Unexpected Finds Procedure describes the process to follow in the event that unexpected threatened flora and/or fauna species or threatened ecological communities are identified. Also, the Unexpected Finds Procedure includes procedures to manage the unexpected discovery of contamination within imported spoil, heritage items, onsite contamination during the construction phase and ordnances finds.
	f) a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 4	Section 4 outlines the program for monitoring and review.
	g) a protocol for managing and reporting any: (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);	Sections 4.4 and 4.5	Section 4.4 outlines incident management procedures Section 4.5 outlines processes to be implemented when non-

CoC	Requirement	Plan Section	How Addressed
			compliances or non-conformances are identified.
	(ii) complaint;	Section 4.6	Section 4.6 outlines complaints handling procedure.
	(iii) failure to comply with statutory requirements;	Section 4.5	Section 4.5 outlines processes to be implemented when non-compliances or non-conformances are identified.
	h) roles and responsibilities for implementing the plan; and	Section 2.2	Section 2.2 details roles and responsibilities for implementing this CFFMP.
	i) a protocol for periodic review of the plan.	Section 4.3	Section 4.3 outlines the requirements for review of this CFFMP.
	Note: *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*		Noted.

The FCMM were prepared as part of the MPW Stage 2 Supplementary Response to Submissions (Arcadis, 2018), and are the management and mitigation measures (2 November 2018) included in Appendix 2 of the SSD 7709 Consent. A list of the FCMM as directly relevant this CFFMP and how they have been complied with are provided below. Other FCMM relevant to construction of the Project and how they have been complied with in this CFFMP are provided in Table 2-3 and Appendix A.

Table 2-3 Final Compilation of Mitigation Measures (FCMM)

FCMM	Requirement	Document Reference
Primary Conditions		
0A	Pre-construction works would be undertaken subject to the preparation of an Environmental Work Method Statement (EWMS) or equivalent. Pre-construction works include the following: • survey; acquisitions; or building/ road dilapidation surveys; fencing; investigative drilling, excavation or salvage • minor clearing or translocation of native vegetation that does not comprise any EECs • establishment of site compounds and construction facilities • installation of environmental mitigation measures • utilities adjustment and relocation that do not present a significant risk to the environment, as determined by the Environmental Representative • other activities determined by the Environmental Representative to have minimal environmental impact • All works as described in Works period A in section 4 of this EIS • Stockpiling within the areas denoted for pre-construction stockpiling within Figure 1 of this document, in accordance with the stockpile management protocol	Section 3.3

FCMM	Requirement	Document Reference
4A	Following detailed design and before construction, detailed flora and fauna mitigation measures would be developed and presented as part of the CEMP. These detailed measures would incorporate the measures listed below. The CEMP would address: • general impact mitigation	This CFFMP Section 3.3
	• staff/contractor inductions	Section 2.3
	• vegetation clearing protocols including identification of exclusion zones	Appendix B
	• pre-clearing surveys and fauna salvage/translocation	Section 3.2.3 Section 3.3 Appendix B
	• rehabilitation and restitution of adjoining habitat	Section 3.3 Appendix B
	• weed control	Section 3.3 Appendix C
	• pest management	Section 3.3 Appendix C
	• monitoring	Section 4.1
	The CEMP would include clear objectives and actions for the Proposal including how to: • minimise human interferences to flora and fauna	Section 1.3 Section 3.3
	• minimise vegetation clearing/disturbance	Section 1.3 Section 3.3
	• minimise impact to threatened species and communities	Section 1.3 Section 3.3
	• minimise impacts to aquatic habitats and species	Section 3.3
	• undertake flora and fauna monitoring at regular intervals.	Section 4.1 Section 3.3
4O	The CEMP (or equivalent) would include detailed measures for minimising the risk of introducing weeds and pathogens for construction related vehicles and equipment.	Appendix C
4P	The CEMP and OEMP for the Proposal would consider and have reference to the weed removal and riparian vegetation restoration undertaken within parts of the Georges River corridor under the MPW Concept Approval (identified within the Biodiversity Offset Package for the MPW Project).	Section 3.3 Appendix C

The Moorebank Intermodal Precinct West – Concept Proposal and Stage 1 Early Works (SSD 5066) was approved on 3 June 2016. The SSD 5066 CoC relate primarily to the management of Stage 1 Early Works or the assessment of later works and are therefore not included in this CFFMP.

The REMM were presented in the MPW Concept Supplementary Response to Submissions Report (Arcadis, 2017). The REMM relevant to this CFFMP are identified in Table 2-4 and Appendix A.

Table 2-4 Revised Environmental Mitigation Measures (REMM)

REMM	Requirement	Document Reference
Primary Conditions		
6A	Following detailed design and before construction, detailed flora and fauna mitigation measures would be developed and presented as part of the CEMP. These detailed measures would incorporate the measures listed in 6B to 6W. The CEMP would address: • general impact mitigation; • staff/contractor inductions; • vegetation clearing protocols; • pre-clearing surveys and fauna salvage/translocation; • rehabilitation and restitution of adjoining habitat; • weed control; • pest management; and • monitoring. The plans would include clear objectives and actions for the Project including how to: • minimise human interferences to flora and fauna; • minimise vegetation clearing/disturbance; • minimise impact to threatened species and communities; • minimise impacts to aquatic habitats and species; and • undertake flora and fauna monitoring at regular intervals.	This CFFMP
6I	The potential for translocation of threatened plant species as individuals or as part of a soil translocation process would be considered during the detailed development of the CEMP.	This CFFMP Section 3.2.3
6R	The CEMP (or equivalent) would include detailed measures for minimising the risk of introducing weeds and pathogens.	Appendix C

The EPBC Act approval for the MPW Concept was granted by DotEE (now the Department of Agriculture, Water and the Environment (DAWE)) in September 2016 (No. 2011/6086). This approval was provided for the impact of the MPW Project on listed threatened species and communities (Sections 18 and 18A of the EPBC Act) and Commonwealth action (Section 28 of the EPBC Act).

The construction of the Project has been designed to be consistent with the EPBC Act Approval conditions, where relevant as presented in Table 2-5 and Appendix A.

It is noted that Revised Environmental Management Measures (EPBC REMM) are presented in the Moorebank Intermodal Terminal (MIT) Final EIS prepared to satisfy the Commonwealth approval process (EPBC Final EIS) dated December 2015 and are the same as the REMM presented in the Supplementary

Response to Submissions Report for the MPW Concept Proposal and Stage 1 Early Works (refer to Table 2-4).

Table 2-5 EPBC Act Approval Conditions

EPBC Approval	Requirement	Document Reference
7	Sections of the CEMP and OEMP relating to biodiversity must be prepared by a **suitably qualified expert** and must: a) be consistent with the *Biodiversity Provisional Environmental Management Framework* (3 July 2014), provided at Appendix O (*sic H*) of the **finalised EIS**	Cover page Section 3.2
	b) incorporate all measures 6A to 6R, 6T, 6V and 6X from Table 7.1 of the ***finalised EIS*** that are described as 'mandatory'	Section 3.3
	c) explain how all measures 6A to 6R, 6T, 6V and 6X from Table 7.1 of the ***finalised EIS*** that are described as 'subject to review' have been addressed	Section 3.3
	d) include detailed biosecurity protocols, prepared in consultation with relevant New South Wales and Commonwealth biosecurity agencies, in relation to international and interstate container movement	Appendix C
	e) be approved by ***the Minister***	Pending

2.2 Roles and Environmental Responsibilities

Key roles and responsibilities associated with this CFFMP are presented in Table 2-6.

Table 2-6 Roles and Responsibilities

Roles (or equivalent)	Key Responsibilities
Principal's Representative **(Project Management Team and Environmental Specialists)**	• Manage and assist the contractors to meet their environmental responsibilities outlined in the CFFMP • Review the CFFMP for adequacy • Review the Construction Contractor's environmental monitoring reports and compliance documentation to confirm that the CFFMP is being implemented and remains adequate
Contractor's Project Manager **(Contractor's PM)**	• Oversee the implementation and maintenance of the CFFMP • Direct works to be undertaken in an environmentally responsible manner that reduces impacts to flora and fauna • Take action to resolve flora and fauna non-conformances, non-compliances and incidents
Contractor's Construction Manager **(Contractor's CM)**	• Provide for adequate resources to enable the implementation of this CFFMP and the successful rehabilitation of vegetated/landscaped areas • Report flora and fauna incidents to Principal's Representative • Appoint a qualified Project Ecologist and animal handler
Contractor's Environmental Manager	• Implement mitigation measures as required in the CFFMP • Undertake monitoring as required by the CFFMP

Roles (or equivalent)	Key Responsibilities
(Contractor's EM)	• Deliver relevant training/inductions/toolbox talks to implement the requirements of this CFFMP
Project Ecologist (PE)	• Undertake preclearance surveys • Be present during clearing works where required • Provide specialist guidance as required • The Project Ecologist must conduct all works under the following licences where relevant: – NSW National Parks and Wildlife Service Scientific Licence – Animal Research Authority issued by NSW Department of Primary Industries – Animal Care and Ethics Committee Certificate of Approval issued by NSW Department of Primary Industries.
Site Supervisor	• Maintain exclusion zones and clearing limits • Implement management measures to enable the protection of native flora and fauna
All Personnel	• Comply with the requirements of this CFFMP

2.3 Training

Appropriate training and inductions for construction and site personnel will be undertaken in accordance with Section 2.7.1 of the CEMP. The following biodiversity specific information will be included within the induction:

- Location and importance of threatened flora and fauna species (and habitat), and endangered ecological communities
- Boundaries for vegetation clearing and "NO-GO" zones
- Procedures on encountering fauna
- Pesticide and herbicide application requirements

Training and/or toolbox talks will also be undertaken on weed and threatened flora and fauna identification, the appropriate guidelines and methods for removing weeds, driving vehicles in weed infested locations and the disposal of weed infested topsoil etc.

Records of all training and inductions are to be filed in accordance with the document control system outlined in the CEMP.

3 IMPLEMENTATION

Information relating to the existing environment, aspects, impacts and risks associated with the Project is largely drawn from the *MPW Stage 2 Amended Proposal Biodiversity Assessment Report* (BAR) (Arcadis, 2019). Within the BAR, the Project is documented in two component site areas, described as follows and illustrated in Figure 1-1 and Figure 3-1:

- The MPW Stage 2 site area, comprising the Project area ***excluding*** the MPE Stage 2 Moorebank Avenue component site area
- The MPE Stage 2 Moorebank Avenue site area, comprising the extent of construction works to facilitate the construction of the Moorebank Avenue upgrade.

For the purposes of consistency, this section presents information relating to the two component site areas outlined above.

3.1 Existing Environment

3.1.1 Threatened Flora Species

Three threatened species occur in the Project site (refer to Table 3-1). The locations of these species are shown in Figure 3-1. These are described in detail in the following sub-sections.

Table 3-1 Threatened Species Located in the Project Site

Species	Status Under BC Act	Status Under EPBC Act
Hibbertia puberula subsp. *puberula*	Endangered	N/A
Grevillea parviflora subsp. *Parviflora* (Small-flower Grevillea)	Vulnerable	Vulnerable
Persoonia nutans (Nodding Geebung)	Endangered	Endangered

3.1.1.1 Hibbertia puberula subsp. puberula

Table 3-2 Hibbertia puberula *subsp*. puberula

Hibbertia puberula* subsp. *puberula	
Description	A small shrub with few spreading but wiry branches up to 30 cm long. This species flowers from October to December and sometimes January. The distribution of *Hibbertia puberula* subsp. *puberula* extends from Wollemi National Park in the north to Morton National Park near Nowra in the south. This species favours low heath on sandy soils or rarely clay, with or without rocks underneath (OEH 2017).
Number of plants and area of habitat occurring in the MPW Stage 2 site area	Approximately 67 plants of *Hibbertia puberula* subsp. *puberula* were recorded in three locations within the MPW Stage 2 site. These records equate to an area of occupancy of 0.94 hectares that will be impacted.
Number of plants and area of habitat occurring within the Moorebank Ave site area	A total of nine plants have been recorded along the Moorebank Avenue site area. These records equate to an area of occupancy of 1.06 hectares that will be impacted.

Hibbertia puberula* subsp. *puberula	
Photo (Arcadis 2017)	

3.1.1.2 Grevillea parviflora subsp. parviflora

Table 3-3 Grevillea parviflora *subsp.* parviflora

Grevillea parviflora* subsp. *parviflora	
Description	A low spreading to erect shrub, usually less than a metre high. The small white flowers are spider-like and clustered in groups of 6-12. This species is sporadically distributed throughout the Sydney Basin and in the Hunter in the Cessnock - Kurri Kurri area (particularly Werakata National Park. Sydney region occurrences are usually on Tertiary sands and alluvium, and soils derived from the Mittagong Formation. Soil landscapes include Lucas Heights or Berkshire Park. It occurs in a range of vegetation types from heath and shrubby woodland to open forest (OEH 2017; DotEE 2017).
Number occurring in the MPW Stage 2 site	A total of 254 stems of *Grevillea parviflora* subsp. *parviflora* were recorded in the MPW Stage 2 site area.
Number occurring within the Moorebank Avenue site	A total of 21 stems were recorded along the Moorebank Avenue site area.
Photo (NSW Office of Environment & Heritage 2017)	

3.1.1.3 Persoonia nutans (Nodding Geebung)

Table 3-4 Persoonia nutans

Persoonia nutans	
Description	An erect to spreading shrub 0.5–1.5 m high, with linear leaves and hairy young branches (DotEE 2017). It is restricted to the Cumberland Plain in Western Sydney, between Richmond in the north and Macquarie Fields in the south. Northern populations are confined to aeolian and alluvial sediments and occur in a range of sclerophyll forest and woodland vegetation communities.
Number occurring in the MPW Stage 2 site area	Eight plants were recorded on the MPW Stage 2 site area.
Number occurring within the Moorebank Avenue site area	A total of eight plants were recorded along the Moorebank Avenue site area.
Photo (NSW Office of Environment & Heritage 2017)	

3.1.2 Vegetation

The majority of the vegetation within the Project consists of remnant forest and woodland vegetation that have been moderately modified by human development and invasive species. The site contains three different Plant Community Types (PCTs) in moderate to good condition, located in both the MPW Stage 2 site area and the Moorebank Avenue site area.

3.1.2.1 Planted and Disturbed Vegetation

Non-native and planted vegetation within the MPW Stage 2 site area is to be removed as part of the MPW Early Works.

The road reserve adjoining Moorebank Avenue is largely cleared, with closely mown grass on the verges. There are planted trees in sections along the road edge comprising mainly native eucalypts. Commonly occurring species include Tallowood *E. microcorys,* Sydney Bluegum x Bangalay hybrid *E. saligna x botryoides*, River Red Gum *E. camaldulensis* and Forest Red Gum *E. tereticornis*. The trees range in height from 6 to 8 m, and in diameter at breast height (dbh) from 0.1 m to over one metre. Most trees are in good health, although some have dead branches or have been pruned into poor shape.

3.1.2.2 Plant Community Types

Three native PCTs occur within the Project. Each of these three PCTs are equivalent to Threatened Ecological Communities (TECs) listed under the BC Act and/or EPBC Act. The distribution of these PCTs is shown in Figure 3-1a and Figure 3-1b.

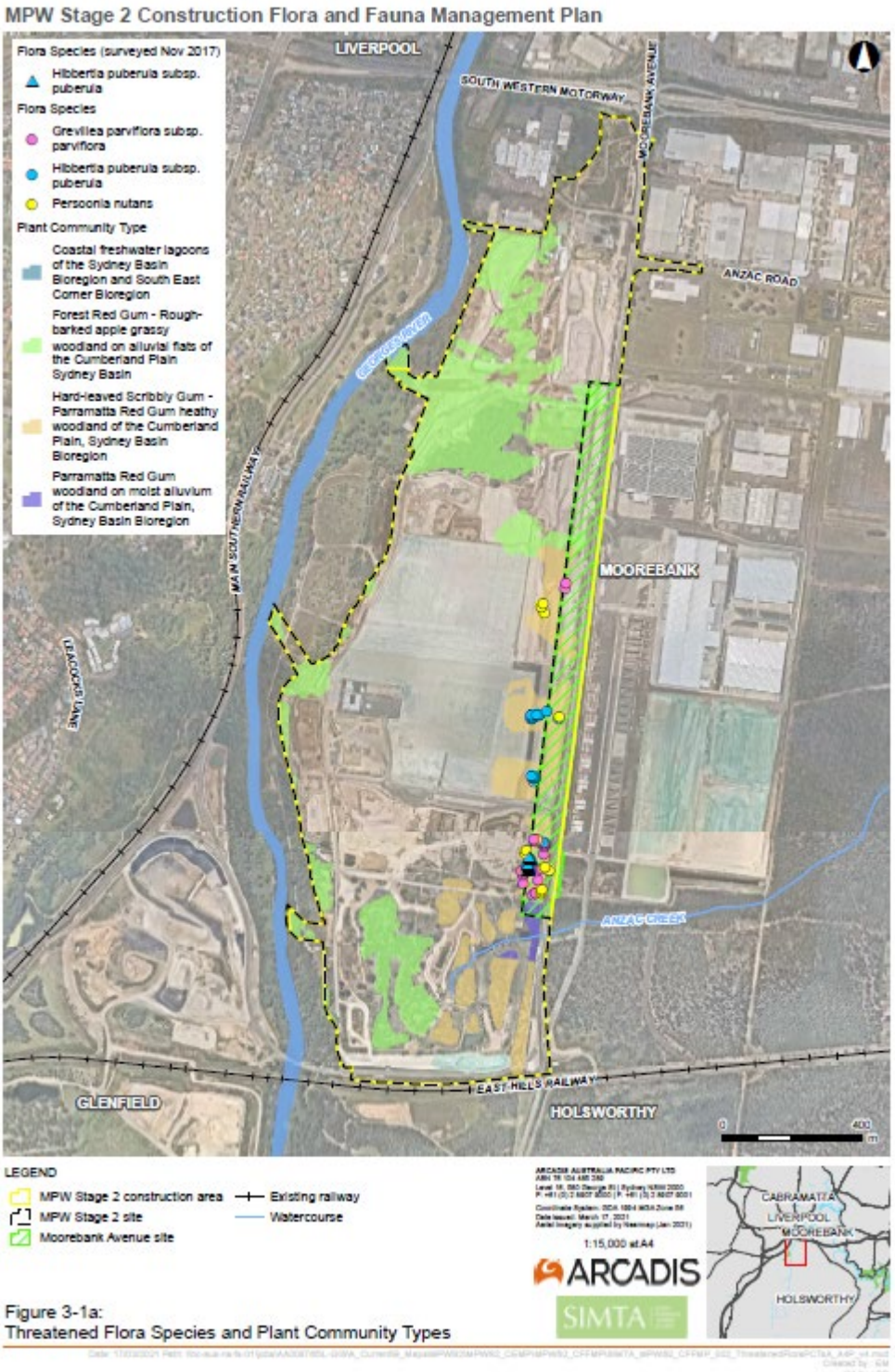


Figure 3-1a:
Threatened Flora Species and Plant Community Types

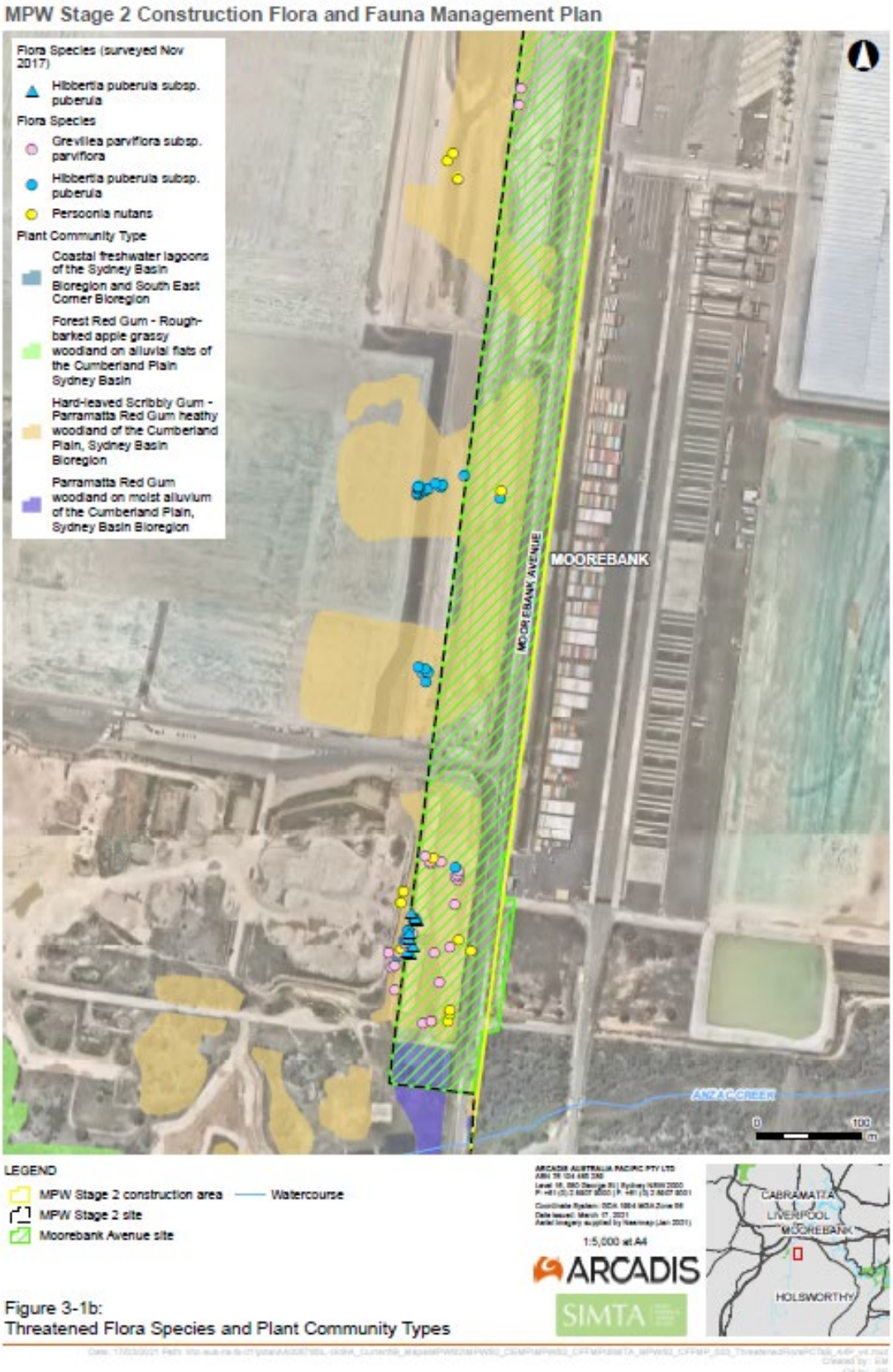


Figure 3-1b:
Threatened Flora Species and Plant Community Types

Figure 3-1a - b Threatened Flora Species and Plant Community Types

Table 3-5 Plant Community Types occurring in the Project Site

Plant Community Type	Equivalent Threatened Ecological Community	Status under BC Act	Status under EPBC Act	Area in Project
MPW Stage 2 site				
Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin (PCT No. 883)	Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion	Vulnerable	Endangered	9.81 ha
Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin (PCT No. 1067)	Castlereagh Swamp Woodland	Endangered	-	0.46 ha
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (PCT No. 835)	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions	Endangered	-	27.88 ha
Moorebank Avenue site				
Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin (PCT No. 883)	Castlereagh Scribbly Gum Woodland in the Sydney Basin bioregion	Vulnerable	Endangered	3.75 ha
Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin (PCT No. 1067)	Castlereagh Swamp Woodland	Endangered	-	0.22 ha
Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (PCT No. 835)	River-flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and Southeast Corner bioregions	Endangered	-	0.59 ha

Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland

Patches of Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland mostly occur in the east of the MPW Site, adjoining Moorebank Avenue South of the ANZAC Road intersection from the Defence Joint Logistics Unit (DJLU) intersection. This PCT is subject to high disturbance from edge effects, existing roads, foot paths, golf course and weed invasion.

The canopy is dominated by native species including *Eucalyptus sclerophylla* (Hard-leaved Scribbly Gum), *Eucalyptus globoidea* (White Stringybark), *Eucalyptus parramattensis subsp. parramattensis (*Parramatta Red Gum) *and Melaleuca decora.*

The shrub layer includes *Leucopogon juniperinus* (Prickly Beard-heath), *Pittosporum undulatum* (Sweet Pittosporum), *Acacia spp., Exocarpos cupressiformis* (Cherry Ballart), *Grevillea parviflora* subsp. *Parviflora* (Small-flower Grevillea) and *Persoonia nutans* (Nodding Geebung).

The groundcover is dominated by native species including *Microlaena stipoides (*Weeping grass)*, Lomandra longifolia* (spiny-headed mat-rush)*, Dianella revolute* (Blue Flax-Lily)*, Poa affinis, Dichondra repens* (Kidney weed), and *Echinopogon ovatus* (Forest Hedgehog Grass) with scattered exotic species such as *Ehrharta erecta* (Panic Veldtgrass)*, Lantana camara* (Lantana)*, Asparagus asparagoides* (Bridal Creeper)*, Senecio madagascariensis* (Fireweed)*, Eragrostis curvula* (African lovegrass)*, Chloris gayana* (Rhodes Grass)*, Ligustrum sinense* (Small-leaved Privet) and *Olea europaea subsp.* cuspidate (African Olive) (Parsons Brinckerhoff 2015a).

Parramatta Red Gum Woodland

Patches of the Parramatta Red Gum Woodland occur in the east of the Project site. This PCT is subject to high disturbance from edge effects, existing roads, foot paths, former Department of Defence activities and weed invasion. The canopy and shrublayer are dominated by native species including *Melaleuca linariifolia* (Flax-leaved Paperbark)*, Casuarina glauca* (Swamp Oak) and *Leptospermum trinervium* (Flaky-barked Tea-tree).

The groundcover is dominated by native species including *Pteridium esculentum* (Common Bracken)*, Persicaria decipiens* (Slender knotweed)*, Imperata cylindrica* (Blady Grass)*, Gratiola pedunculata, Typha orientalis* (Broadleaf Cumbungi)*, Baumea articulate (*Jointed Twig-rush)*, Hydrocotyle verticillata* (Shield Pennywort) and *Euchiton sphaericus* with scattered exotic species such as *Rubus fruticosus* (Blackberry)*, Ludwigia peruviana* (Peruvian Primrose)*, Araujia sericifera* (Moth vine)*, Gomphocarpus fruticosus* (Narrow-leaved Cotton Bush) and *Paspalum urvillei* (Vasey Grass) (Parsons Brinckerhoff 2015a).

Forest Red Gum – Rough-barked Apple grassy woodland

Large patches of Forest Red Gum – Rough-barked Apple grassy woodland occur in the western portion of the Project Site, particularly adjoining the Georges River in the northwest of the site. This PCT is subject to high disturbance from edge effects, existing roads, foot paths, former Department of Defence activities and weed invasion.

The canopy and shrublayer are dominated by native species including *Eucalyptus tereticornis* (Forest Red Gum)*, Eucalyptus amplifolia* (Cabbage Gum)*, Angophora floribunda* (Rough-barked Apple)*, Bursaria spinosa* (Blackthorn, Boxthorn)*, Breynia oblongifolia* (Coffee bush)*, Leucopogon juniperinus* (Prickly Beard-heath)*, Jacksonia scoparia* (Winged Broom-pea)*, Acacia spp.,* and *Exocarpos cupressiformis* (Cherry Ballart).

The groundcover is dominated by native species including *Microlaena stipoides* (Weeping grass)*, Lomandra longifolia* (Spiny-headed mat-rush)*, Entolasia stricta* (Wiry panic)*, Austrostipa ramosissima* (Stout Bamboo Grass)*, Dianella revolute* (Blue Flax-Lily), *Themeda triandra* (Kangaroo grass)*, Cynodon dactylon* (Couch)*, Aristida ramose* (Purple Wiregrass), *Carex appressa* (Tall sedge)*, Dichondra repens* (Kidney weed) and *Oplismenus imbecillis* (Basket grass). Some areas within this community were dominated by an exotic shrub layer or exotic grasses such as *Ehrharta erecta* (Panic Veldtgrass)*, Ligustrum* spp., *Olea europaea* subsp. *cuspidata* (African Olive) and *Lantana camara* (Lantana) (Parsons Brinckerhoff (2015a).

3.1.2.3 Weeds

Twelve priority weeds listed under the *Biosecurity Act* 2015 have been identified within the Project site. Nine of these are also listed as Weeds of National Significance (WoNS). The weeds identified within the Project site are listed in Table 3-6.

Table 3-6 Weeds recorded in the Project Site

Weed	Status
Alligator Weed; *Alternanthera philoxeroides*	WoNS, priority weed
Ground Asparagus; *Asparagus aethiopicus*	WoNS, priority weed
Bridal Creeper; *Asparagus asparagoides*	WoNS, priority weed
Boneseed; *Chrysanthemoides monilifera* subsp. *monilifera*	WoNS, priority weed
Bitou Bush; *Chrysanthemoides monilifera* subsp. *rotundata*	WoNS, priority weed

Weed	Status
Lantana; *Lantana camara*	WoNS, priority weed
Blackberry; *Rubus fruticosus*	WoNS, priority weed
Sagittaria; *Sagittaria platyphylla*	WoNS, priority weed
Salvinia; *Salvinia molesta*	WoNS, priority weed
Fireweed; *Senecio madagascariensis*	WoNS, priority weed
Giant Reed; *Arundo donax*	Priority weed
Peruvian Primrose; *Ludwigia peruviana*	Priority weed
African Olive; *Olea europaea* subsp. *cuspidata*	Priority weed

3.1.3 Threatened Fauna Species

Eight threatened fauna species have been recorded or tentatively identified in the Project site or adjacent to it:

- Koala (*Phascolarctos cinerus*), listed as Vulnerable under the BC Act and EPBC Act. One individual Koala was recorded in the Boot Land from infra-red camera surveys and scats identified at 14 locations within the Boot Land (Arcadis 2019). No individuals were identified within the Project site.
- Cumberland Plain Land Snail (*Mediolum corneovirens*). A Cumberland Plain Land Snail shell was identified within the northern Boot Landin late 2018, however, targeted surveys within the Project site did not identify any snails present (Arcadis 2019).
- Grey-headed Flying-fox (*Pteropus poliocephalus*), listed as Vulnerable under the BC Act and EPBC Act, was recorded flying over the Project site by PB (2014a).
- Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*), listed as Vulnerable under the BC Act, was recorded by Hyder Consulting (2015) in the Georges River riparian corridor to the south-west of the Project site. The species was recorded in an earlier fauna study of the Project site in 2003 (Lesryk Environmental Consultants 2003, cited in PB 2014a) and possible recordings of the species were also made by PB (2014a).
- Possible recordings of Large-footed Myotis (*Myotis macropus*), listed as Vulnerable under the BC Act, were made by Hyder Consulting (2015) in the Georges River riparian corridor to the south-west of the Project site and by PB (2014a). This species was also recorded in the LesryK (2003) fauna study of the site.
- Bat calls attributable to either the Greater Broad-nosed Bat (*Scoteanax rueppellii*) or Eastern False Pipistrelle (*Falsistrellus tasmaniensis*), both listed as Vulnerable under the BC Act, were also recorded by PB (2014). These calls were not of sufficient quality to reliably differentiate the species; however, they were considered more likely to be the Greater Broad-nosed Bat, based on presence of suitable habitat and previous records in the locality.
- The Little Eagle (*Hieraaetus morphnoides*), listed as Vulnerable under the BC Act, was recorded in the Georges River riparian corridor outside the Project site about 200 m north of proposed basin outlet 5 (PB 2015c).

In addition to the above listed species, 13 threatened fauna species have a high or moderate likelihood of occurrence in the Project site. These species are listed in Table 3-7 and identified in Appendix D.

Table 3-7 Threatened Species Likely to Occur in Project Site

Threatened Fauna Species	Status under BC Act	Status under EPBC Act
Barking Owl; *Ninox connivens*	Vulnerable	-
Black-chinned Honeyeater (eastern subspecies); Melithreptus *gularis* subsp. *gularis*	Vulnerable	-
Eastern Freetail-bat *Mormopterus norfolkensis*	Vulnerable	
Flame Robin; *Petroica phoenicea*	Vulnerable	-
Gang-gang Cockatoo; *Callocephalon fimbriatum*	Vulnerable	-
Little Lorikeet; *Glossopsitta pusilla*	Vulnerable	
Powerful Owl; *Ninox strenua*	Vulnerable	-
Scarlet Robin; *Petroica boodang*	Vulnerable	-
Spotted Harrier; *Circus assimilis*	Vulnerable	-
Square-tailed Kite *Lophoictinia isura*	Vulnerable	-
Swift Parrot; *Lathamus discolor*	Endangered	Critically Endangered
Varied Sittella; *Daphoenositta chrysoptera*	Vulnerable	-
Yellow-bellied Sheathtail-bat; *Saccolaimus flaviventris*	Vulnerable	-

3.1.4 Fauna Habitat

Fauna habitat features identified in the Project site are summarised in Table 3-8. Known hollow bearing trees are shown in Figure 3-2.

Table 3-8 Fauna Habitat Features Occurring in the Project Site (PB 2014)

Habitat	Description	Comments
Riparian vegetation along the Georges River	Riparian forest/Alluvial Woodland corridor with tall eucalypt canopy; sparse subcanopy of *Acacia* spp and mesic shrubs and small trees; understorey ranging from moderately dense native shrub layer to weed (e.g. *Lantana camara*) thickets; groundcover ranging from native herbs and grasses to areas of exotic vines (e.g. *Cardiospermum grandiflorum*), scramblers and grasses. Moderate connectivity to other habitat in the locality. Hollow-bearing trees moderately abundant.	Provides foraging, roosting and/or breeding opportunities for a wide variety of threatened fauna and has high value as a fauna movement corridor due to its connectivity north and south of the site.
Fragmented patches of shrubby woodland	Sparse remnant canopy; understorey generally absent or depauperate; groundcover ranging from a mixture of native herbs and grasses with exotic species (co-dominant) to areas dominated by exotic species. Low connectivity to other habitat in the locality. Hollow-bearing trees moderately abundant.	Incomplete vegetation structure and lack of canopy connectivity limits its value as habitat for many species. Tree hollows provide potential roost/breeding sites for species capable of using isolated trees.
Highly disturbed areas containing large remnant trees	Sparse remnant canopy; understorey generally absent or depauperate; groundcover ranging from a mixture of native herbs and grasses with exotic species (co-dominant) to areas dominated by exotic species. Low connectivity to other habitat in the locality. Hollow-bearing trees moderately abundant.	Incomplete vegetation structure and lack of canopy connectivity limits its value as habitat for many species. Tree hollows provide potential roost/breeding sites for species capable of using isolated trees.

Habitat	Description	Comments
Artificial ponds/wetlands	Artificial ponds with varying cover of open water and aquatic macrophytes. Canopy absent or sparse consisting chiefly of relatively small trees; Understorey generally absent or depauperate; groundcover ranging from a mixture of native emergent aquatic herbs, grasses and sedges with exotic species (co-dominant) to areas dominated by native species. Low to moderate connectivity to other aquatic habitat in the locality. Hollow-bearing trees scarce. The exotic fish, Plague Minnow (*Gambusia holbrooki*) is present in some ponds and absent from others. Access to fresh water for birds and bats.	Modified vegetation structure and limited connectivity makes this habitat unsuitable for many species.

3.1.5 Aquatic Species

No threatened aquatic species have been identified in the Project site. Locally occurring aquatic plant species were found to be variable but dominated by native species. No native fish species currently listed under the NSW *Fisheries Management Act* 1994 (FM Act) were recorded in the catchment nor considered likely to occur in the area. The native species that persist in the catchment were considered to be disturbance tolerant due to the degraded condition of the river. Two dragonfly species currently listed under the FM Act, the Adams Emerald Dragonfly (*Archaeophya adamsi)* and Sydney Hawk Dragonfly (*Austrocordulia leonardi*), which are persistent in the Sydney Basin, were found to be absent from the Project Site.

Figure 3-2: Fauna Habitat Features

Figure 3-2 Fauna Habitat Features

3.2 Aspects, Impacts and Risks

Impacts of the Project on biodiversity were assessed by the Moorebank Precinct West-Biodiversity Assessment Report (Arcadis, 2017b), which was prepared in accordance with the NSW Framework for Biodiversity Assessment (FBA) (OEH 2014). The Aspects and Impacts Register can be found in Appendix C of the CEMP. The Project construction boundary and exclusion zones are identified in
Figure 3-3.

3.2.1 Construction Activities

The Project's construction activities will have a direct impact on biodiversity values that are located in the Project's construction footprint and may have indirect impacts on biodiversity values located on land that adjoins the construction footprint. The most significant construction activities that will impact biodiversity include:

- Clearing of vegetation
- Earthworks including excavation and grading of topography
- Stockpiling of building / construction waste and spoil
- Plant maintenance.

3.2.2 Construction Impacts

A summary of impacts that are likely to result from construction of the Project are provided in Table 3-9. The extent or scale of the impact generally relates to biodiversity impacts that occur within the construction footprint that will be directly impacted by construction activities.

Table 3-9 Construction Impacts on Biodiversity

Construction Activity	Description of Impact	Extent / Scale of Impact	
		MPW Stage 2 Site	Moorebank Avenue Site
Direct Impacts			
Vegetation clearing[1]	Clearing of Hard-leaved Scribbly Gum – Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin (PCT ME003)	9.81 ha	3.73 ha
	Clearing of Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin (PCT ME005)	0.46 ha	0.22 ha
	Clearing of Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (ME018)	27.88 ha	0.59 ha
	Clearing of *Persoonia nutans*	8 plants	8 plants
	Clearing of *Grevillea parviflora* subsp. *parviflora*	254 stems	21 stems
	Clearing of Hibbertia puberula subsp. *puberula*	0.94 ha	1.06 ha
	Loss of specific fauna habitat components including live trees, tree hollows, foraging resources, ground layer habitats such as ground timber and well-developed leaf litter	The Preclearance Assessment (Biosis, January 2020) identified that 56 hollow-bearing are required to be removed	

[1] Note that the total area of clearing equates to 42.69 ha i.e. equivalent to the maximum allowable Koala habitat permitted to be cleared under CoC B157

Construction Activity	Description of Impact	Extent / Scale of Impact	
		MPW Stage 2 Site	Moorebank Avenue Site
	Increase in fauna habitat fragmentation due to the removal of vegetation from the construction footprint	Removal of existing tenuous connectivity offered by scattered trees and small patches of native vegetation	
	Decrease in connectivity of riparian habitat corridors due to the removal of riparian vegetation during construction of sediment basin outlets into the Georges River	Removal of vegetation leaving gaps between 40-70 metres apart for the construction of three sediment basin outlets	
		1.56 ha of riparian vegetation (Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin)	
	Increased competition for habitat due to removal of vegetation	Retained riparian vegetation	
Indirect Impacts			
Earthworks and geotechnical activities	Drawdown of water from the root zone affecting vegetation using shallow water aquifers	Retained riparian vegetation only	
Activities involving people, vehicles and plant	Injury or mortality of fauna resulting from collisions with vehicles or plant, or accidental entrapment in plant, trenches or other earthworks	Fauna species that may occur within the Project site	
	Fragmentation and loss of habitat connectivity	Mobile fauna species within the Project site	
	Light pollution	Disturbance of habitat	
	Temporary increases in noise pollution	Riparian and retained vegetation within and nearby Project site	
	Dust spill deposited onto vegetation has potential to reduce photosynthesis processes	Retained vegetation	
	Infection of native plants by pathogens including Amphibian Chytrid Fungus, Exotic Rust Fungi and Phytophthora Root Rot Fungus by infected soil or plant material adhering to and being transferred by vehicles, people (clothes or shoes), animals, or by percolating through the soil, in creeks or storm runoff	Riparian vegetation and vegetation in nearby areas (such as the Boot Land)	
	Short term increase in edge effects on the habitat of the Georges River riparian corridor	Limited to changes to the width and shape of the sediment basins.	
	Disturbance to aquatic habitat including removal of submerged or emergent vegetation, shading of aquatic vegetation, potential increases in turbidity and pollution of waterways.	Native vegetation and fauna habitat occurring in areas around the Georges River	
Material stockpiling	Reduction in air quality due to dust and mobilisation of particulates generated by stockpiling activities.	Riparian vegetation and vegetation in nearby areas (such as the Boot Land)	

3.2.3 Translocation of Threatened Flora Species

Translocation is defined as the “deliberate transfer of plant material from one area to another for conservation purposes” (Vallee et al. 2004). The three threatened species that are located within the construction footprint could be considered as candidates for translocation:

- *Grevillea parviflora* subsp. *parviflora*
- *Hibbertia puberula* subsp. *puberula*
- *Persoonia nutans.*

Translocation is not considered a mitigation measure under the EPBC Act and the flora individuals to be removed/translocated will still be considered to be directly impacted by the project. This impact will be compensated by the implementation of the Biodiversity Offset Package (BOP) that will be prepared for the Project.

Translocation is not considered to be necessary for *Grevillea parviflora* subsp. *parviflora* due to high representation of this species within the biobank site (estimated population of 6,186 (WSP 2018)). Similarly, *Hibbertia puberula* subsp. *puberula* has a high representation within the biobank site and translocation is not considered necessary for this species (direct count of 1,601 plants equivalent to an occupied area of habitat of 24.66 hectares).

Persoonia nutans will potentially be a good candidate for translocation since the population size within the biobank site is relatively low (258 plants counted) and because of its conservation status under both State and Commonwealth legislation (Endangered).

3.2.4 Review of Nest Box Requirement

In accordance with EPBC Approval No. 2011/6229 for MPE and CoC D21(d)(ii) for MPW Stage 1, the installation of nest boxes across the Moorebank precinct is required where appropriate, as a result of vegetation clearing i.e. the removal of hollow-bearing trees.

Nest box monitoring undertaken in November 2018 (Arcadis, 2019b, Appendix F) identified that a total of 247 nest boxes had been installed for the MPE Site and MPW Early Works (Stage 1): 195 in the Georges River Corridor, a narrow, linear strip of bushland alongside the MPW project applicable to MPW Stage 2; and 52 in the Boot Land located to the south of the MPE Project Site.

Those nest boxes currently installed are considered sufficient in order to compensate for the removal of hollow bearing trees associated with MPW Stage 2 for the following reasons:

- The identified number of nest boxes within the Georges River Corridor exceeds recommended densities (i.e. is over-saturated) and, as such, these nest boxes favour over-abundant, adaptable and/or aggressive species which outcompete less tolerant native species.
- The identified number of nest boxes within the Boot Land currently meets benchmark conditions and therefore additional supplementary nest boxes are not required.
- There is no suitable woodland present in the rail corridor for nest box installation and the southern Boot Land presents installation risks (due to previous bush fire) and risks to threatened flora recorded within this area.

Nest box monitoring will continue to be undertaken annually during spring in compliance with the Nest Box Monitoring Strategy (NBS) as required under MPW Concept Plan Development Consent (SSD 5066) CoC D21(d)(ii)(b) and REMM 6AA.

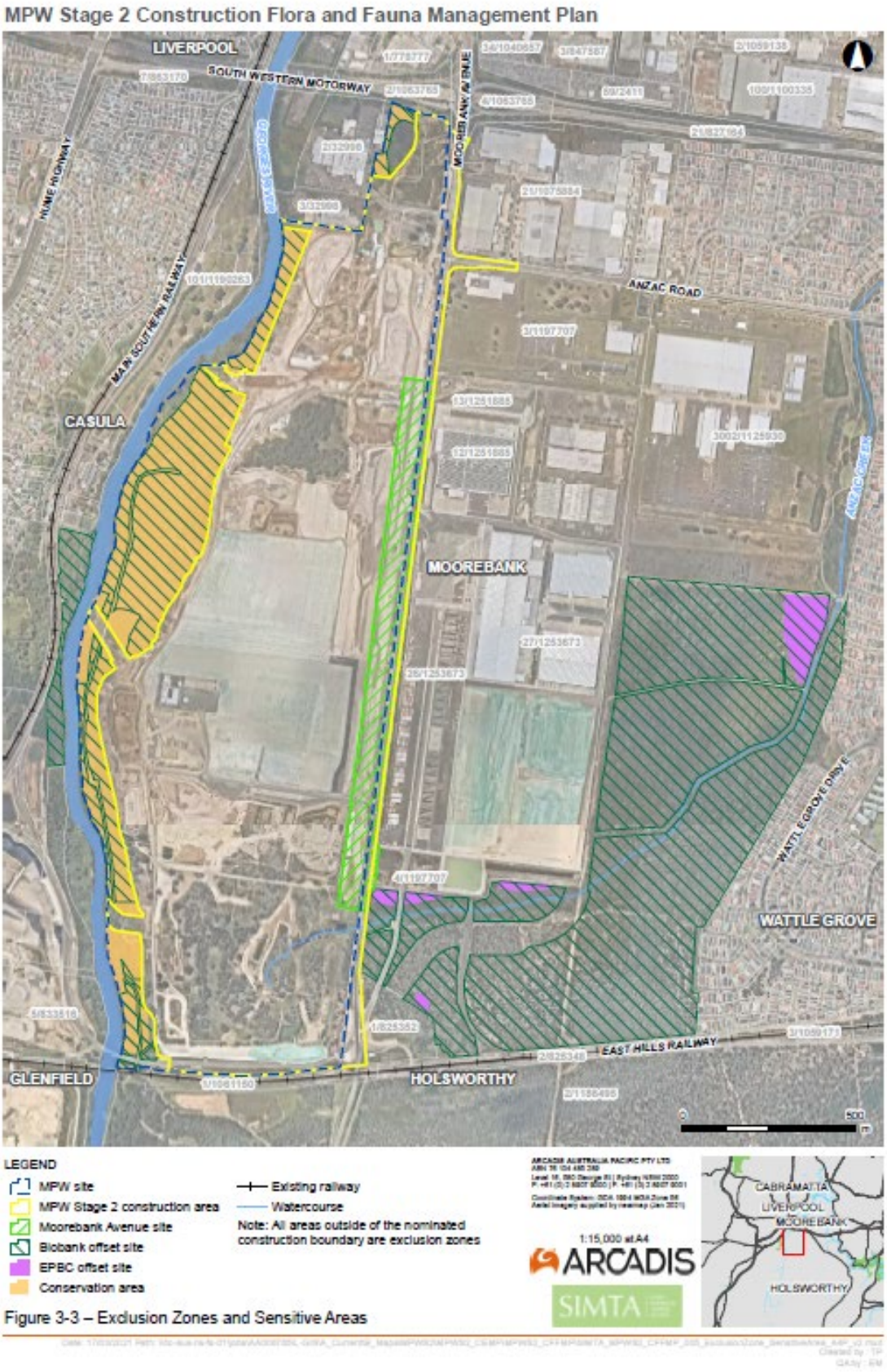


Figure 3-3 – Exclusion Zones and Sensitive Areas

Figure 3-3 Exclusion Zones and Sensitive Areas

3.3 Management Measures

Management actions prescribed by this CFFMP aim to avoid and minimise impacts on biodiversity. Management measures to be implemented prior to, during and after construction are prescribed in Table 3-10.

Table 3-10 Management Measures

ID	Management Measure	Timing	Responsibility	Reference
Pre-construction Management Actions				
FF1	Prior to the commencement of clearing for remediation of contamination in vegetated areas, remediation options that minimise clearing will be considered and those that that retain vegetation and habitat connectivity for koalas (as identified in the Koala Management Plan, Cumberland Ecology 2019) to the greatest extent will be implemented where practicable.	Prior to vegetation clearing	Principal's Representative Contractor's CM Contactor's EM	CoC B164
FF2	Remediation of contaminated areas shall be planned to occur in a phased manner impacting a maximum contiguous area of 65 hectares at any one time and with no disturbance (i.e. vegetation clearing) to adjacent areas.	Prior to vegetation clearing	Contractor's CM Contactor's EM	CoC B164
FF3	Where contamination is identified as occurring within areas where vegetation is proposed to be cleared, a Contamination Management Plan would be prepared in consultation with the Site Auditor.	Prior to vegetation clearing	Contractor's CM Contactor's EM	CoC B164
FF4	Vegetation clearing limits, and exclusion zones (including protected areas and "NO-GO" areas) must be identified on all design, construction and operational drawings as well as sensitive area drawings. Clearing must only be undertaken within the construction boundary to minimise loss of fauna habitat and koala feed trees. No more than 42.89 hectares of native vegetation to be cleared for the development. High visibility fencing (such as barrier mesh) must be erected on the clearing boundaries as identified on drawings, including along the riparian corridor.	Check and verify limits two weeks prior to the commencement of clearing High visibility fencing must be maintained until construction completion	Contractor's EM Site Supervisor	CoC A10 CoC B153 CoC B155 (a) and (c) FCMM 4B and 4C REMM 6B and 6C
FF5	To minimise potential impacts in areas vulnerable to erosion near aquatic areas (such as Georges River), these areas must be identified as "NO-GO" areas on all design, construction and operational drawings as well as sensitive area drawings.	Two weeks prior to the commencement of clearing	Contractor's EM Site Supervisor	CoC B155 (a) and (c) FCMM 4M
FF6	Where practicable, reduce the height and increase the visibility of temporary fences to reduce likelihood of collision by birds and bats.	Fencing must be maintained until	Project Ecologist Site Supervisor	CoC B155 (b) FCMM 4I

ID	Management Measure	Timing	Responsibility	Reference
	Consult the Project Ecologist if any powerlines require relocating to ensure they are not placed in bat flyways or in a location that could impact birds.	construction completion. Verify the need for powerline relocation prior to construction.		REMM 6H
FF7	Mark all trees within the construction footprint that could potentially be used by resident and migratory fauna as habitat (i.e. hollow-bearing trees). Mark up trees as follows (with spray paint on their trunks in a visible location)**:** **'H'** = Habitat Tree. If hollow-bearing or habitat trees are identified as requiring removal, the two-staged clearing process outlined in Appendix B is to be implemented and the clearing supervised by an ecologist. **O** = Ecologist has assessed the tree and it is ready for removal. **O** = Ecologist has assessed the tree and it requires pre-inspection immediately prior to, and during removal.	Two weeks prior to the commencement of clearing	Contractor's EM Project Ecologist	CoC B155 (b) FCMM 4E
FF8	Identify nearby habitat suitable for the release of fauna that may be encountered during the pre-clearing process, such as fauna habitat contained within the Boot Land to the east of the Project site and the Moorebank offset area adjacent to the western boundary of the Project site.	Two weeks prior to the commencement of clearing	Contractor's EM Project Ecologist	Standard practice
FF9	Undertake pre-clearing fauna surveys as outlined in the Clearing Protocol in Appendix B including offset requirements (FF6.2).	12 to 48 hours before commencement of clearing	Contractor's EM Project Ecologist	CoC B156 FCMM 4E REMM 6D
FF10	Appropriate drainage infrastructure must incorporate native revegetation and fauna habitat features.	Prior to the commencement of construction and clearing	Principal's Representative	CoC B155 (a) FCMM 4T

ID	Management Measure	Timing	Responsibility	Reference
FF11	All site personnel involved in construction activities must be inducted during Toolbox Talks on the requirements of this CFFMP prior to commencing work on the Project site. Site personnel are to be: • Made aware of the clearing limits and how they are marked • Informed that they are not to encroach on areas beyond the clearing limits • Are to be informed of the two-stage clearing process for hollow-bearing trees • Made aware of the locations of threatened flora species, Threatened Ecological Communities and vegetation to be retained, measures required to protect them, and the consequences of damage to these areas • Made aware of the local fauna that may occur on the Project site • Made aware of the Unexpected Finds Protocol, pertaining to threatened flora and fauna species that may be found on the Project site • Informed of the incident response procedures in the Construction Environmental Management Plan (CEMP).	Immediately prior to the commencement of construction activities	Contractor's EM Site Supervisor	CoC B155 (c) FCMM 4A
FF12	If any previously unidentified native flora or fauna, contaminated soil, ordnances, Aboriginal and non-indigenous heritage items are encountered on site, then the unexpected finds protocol (Appendix D of the CEMP) must be implemented.	Prior to the commencement of construction and during construction	Contractor's EM Project Ecologist	CoC B159
FF13	Pre-construction activities including minor clearing or translocation of native vegetation that does not comprise EEC would be undertaken subject to the preparation of an EWMS.	Prior to the commencement of pre-construction activities	Principal's Representative Contractor's CM Contactor's EM	FCMM 0A
FF14	An arborist will be engaged to prepare a succinct methodology for the removal, relocation, and placement of the scar portions of MA6 and MA7 in a weather protected shelter. The methodology will include measures to ensure that the scar portions of MA6 and MA7 are not damaged during relocation to the Tharawal LALC property. Any vegetation clearance undertaken will result in minimal disturbance to the area proposed for archaeological excavation.	Prior to vegetation clearing	Principal's Representative Contractor's CM Contactor's EM	CoC B145

ID	Management Measure	Timing	Responsibility	Reference
	A salvage strategy of archaeological areas is outlined in Aboriginal Archaeological Salvage Strategy for Moorebank Precinct West (MPW) Stage 2 Project (Artefact Heritage Services dated 21 January 2020).			
Construction Management Actions				
Vegetation Management Actions				
FF15	No spoil, excavated material, plant or equipment is to be stockpiled or stored within vegetation exclusion zones.	During construction	Contractor's EM	Standard practice
FF16	Where practicable, native plants in areas that are to be permanently cleared may be translocated to areas identified for rehabilitation (Appendix B).	During construction	Contractor's EM Project Ecologist	FCMM 4F
FF17	Suitable habitat elements (e.g. large woody debris) within the vegetation clearing zone may be stockpiled for later use in vegetation restoration	During construction	Contractor's EM Project Ecologist	FCMM 4K REMM 6K
FF18	Winter-flowering trees must be preferentially planted in landscaped areas of the Project Site to provide a winter foraging resource for migratory and nomadic bird and fox species	During construction	Contractor's EM	FCMM 4L REMM 6L
FF19	Weeds, pests and vermin must be managed in accordance with the Weed, Pest and Vermin Management Protocol (Appendix B)	During construction	Contractor's EM Project Ecologist	CoC B83 FCMM 4P
FF20	All clearing and fauna and vegetation relocation activities must be supervised by a Project Ecologist to minimise disturbance and to assist in relocating any native fauna	During construction	Contractor's EM Project Ecologist	FCMM 4D REMM 6F
FF21	Management of spills or leaks will be undertaken in accordance with the Emergency Spill Response in the CSWMP to avoid potential impacts to water quality of surrounding water sources including Georges River	During construction	Contractor's EM	FCMM 6E
Fauna Management Actions				

ID	Management Measure	Timing	Responsibility	Reference
FF22	An opportunity to retain the hollow bearing trees on site will be discussed with the Contractor's CM prior to tree removal.	During construction and clearing	Contractor's CM Site Supervisor	Preclearance Assessment Report Standard practice
FF23	If pre-clearing surveys identify sensitive fauna habitation, where reasonable and feasible, clearing of hollow-bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow-dependent birds in the locality are also unlikely to be breeding.	During construction and clearing	Contractor's CM Site Supervisor	CoC B155 FCMM 4E REMM 6E
FF24	Habitat removal will be a staged process as outlined in Appendix B - Clearing Protocol	During construction and clearing	Contractor's EM Project Ecologist	FCMM 4E
FF25	The relocation of fauna to adjacent retained habitat will be undertaken by a Project Ecologist during the supervision of vegetation removal.	During construction	Project Ecologist	CoC B155 (b) FCMM 4G REMM 6F
FF26	Fences and other preventative actions must be implemented and maintained to keep terrestrial fauna away from operational terminals and construction activities.	During construction and operation	Contractor's CM Site Supervisor	CoC B155 (b) FCMM 4V
FF27	During drainage of any waterbodies, under the supervision of the project ecologist, turtles and frogs must be relocated to either the Georges River or existing pond at the northern end of the Project Site. Native fish endemic to the Sydney area are to be translocated to natural waterways, and pest fish euthanised. If non-endemic native species are encountered on site, DPI Fisheries will be consulted to determine translocation options.	During construction	Project Ecologist	CoC B155 (b) FCMM 4H REMM 6G
FF28	If any animal is injured, contact the relevant local wildlife rescue agency (e.g. WIRES) and/or local veterinary surgery as soon as practical. • WIRES: 1300 094 737 • Sydney Wildlife Rescue: 9413 4300 • Moorebank Veterinary Hospital: 8798 4859	If injured terrestrial animals are found prior to or during clearing activities	All construction site personnel	CoC B155 (b) FCMM 4E

ID	Management Measure	Timing	Responsibility	Reference
	• Liverpool Veterinary Hospital: 9602 6015. 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: Handling fauna with care and as little as possible • Covering large 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. • In the case of arboreal or flying mammals, attempts will be made to relocate the den or nest under the supervision of the Project Ecologist. After capture, the animal(s) will be held by a trained wildlife carer for a period of no longer than two weeks until the roost or den can be relocated, either as an entire tree or part thereof.			
FF29	Directional lighting will be used where lighting is required in construction areas to avoid impact on fauna.	During construction	Contractor's CM Site Supervisor	Standard practice REMM 14C
FF30	Keep Project site tidy for vermin control, where possible using biodegradable pesticides / herbicides.	During construction	All construction site personnel	Standard Practice
Aquatic Management Actions				
FF31	No works to be undertaken within the riparian corridor outside of the approved construction boundary.	During construction	Contractor's EM	CoC A10 CoC A11
FF32	Erosion and sediment control measures such as silt fencing and hay bales must be implemented and maintained to prevent sedimentation of streams.	During construction	Contractor's EM	FCMM 4M
FF33	Construction is not anticipated to include any works within the Georges River. However, should any works be required within the Georges River consultation with the Department of Primary Industries (Crown Lands) would be undertaken prior to the commencement of works.	Prior to commencement of works in Georges River	Contractor's EM Site Supervisor	FCMM 0E

ID	Management Measure	Timing	Responsibility	Reference
Upon Completion of Construction				
FF34	Where soil has been compacted, ripping may be required prior to re-spreading topsoil and/or seeding.	As soon as practicable after disturbance	Contractor's EM Site Supervisor	Standard practice
FF35	Revegetation by seeding must utilise native species of local provenance.	As soon as practicable after disturbance	Contractor's EM Site Supervisor	Standard practice
Monitoring				
FF36	Monitoring of fauna, flora and aquatic species within the Project site will be undertaken in accordance with Section 4.1.	During construction	Contractor's EM	FCMM 4S, 4U, 4W

4 MONITORING AND REVIEW

4.1 Environmental Monitoring

Monitoring, including site inspections, will be undertaken in accordance with Section 4.1 and Section 4.2 of the CEMP. Monitoring required to determine the effectiveness of management measures are outlined in Table 4-1.

Table 4-1 Monitoring Activities

Monitoring Activity	Frequency	Responsibility
Inspect the delineation of "NO-GO" areas, to ensure that the clearing boundary (e.g. high visibility flagging tape) is intact and clearly visible	Daily	Site Supervisor
Inspect areas immediately adjoining the clearing boundary (i.e. within "NO-GO" areas), to ensure no material stockpiling, plant or equipment storage is located within a "NO-GO" area	Daily	Site Supervisor
Inspection of sediment control measures (sediment fencing) to ensure all measures are intact and functioning properly, to avoid indirect impacts on adjoining areas	Weekly, and as soon as practical following rainfall	Contractor's EM/ Site Supervisor
Inspection of cleared and disturbed areas, to confirm that appropriate stabilisation measures have been implemented (e.g. placement of mulch and/or revegetation by seeding)	Weekly	Contractor's EM
Inspection of cleared and disturbed areas, to identify the presence of establishing weeds	Weekly	Contractor's EM
Inspect Project site to determine weeds, vermin and pest species are not present in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area	No less than every three months	Contractor's EM
Inspection of next boxes as per the Nest Box Strategy	Every 6 months	Principal's Representative
Inspection of macroinvertebrate communities will be undertaken upstream and downstream of the proposed impact at the Georges River Bridge and reference locations to assist identify any changes in aquatic communities	Prior to, during and following construction	Contractor's EM
Inspect rehabilitated/revegetated areas to determine whether additional maintenance is required	Weekly post rehabilitation/landscaping activities until handover to maintenance contractor	Contractor's EM/ Landscaping contractor

4.2 Environmental Auditing and Reporting

Auditing and reporting will be undertaken in accordance with Section 4.3 of the CEMP. Nest box inspections/monitoring and reporting will be managed in accordance with Section 3.3.2 of this document.

A copy of the assessment required by CoC B164 (including evidence of consultation with the Site Auditor) and any associated update of the CEMP required will be provided to the Planning Secretary for approval one month prior to the commencement of commencement of vegetation clearing.

4.3 Review and Improvement

Review and improvement of this CFFMP will be undertaken in accordance with Section 4 of the CEMP. Continuous improvement will be achieved by the ongoing evaluation of environmental management performance and effectiveness of this CFFMP against environmental policies, objectives and targets.

Revisions of this CFFMP will be undertaken in accordance with Section 1.1.5 of the CEMP.

4.4 Incidents

In the event of a safety / environmental incident or unpredicted impacts relating to the management of flora and fauna, it is the responsibility of all personnel to report to the Site Supervisor.

All environmental incidents will be managed and reported in accordance with Section 2.8 of the CEMP.

4.5 Non-Compliance and Non-Conformance

It is the responsibility of all site personnel to report non-compliances and non-conformances to the Site Supervisor and/or the Contractor's EM. Non-compliances and non-conformances will be managed in accordance with Section 4.4 of the CEMP.

4.6 Complaints

Complaints handling will be undertaken in accordance with Section 2.6.3 of the CEMP and Section 3.3.6 of the Community Communication Strategy (CCS).

5 REFERENCES

Arcadis (2017) *Moorebank Precinct West – Stage 2 Proposal Response to Submissions*, prepared for Sydney Intermodal Terminal Alliance.

Arcadis (2019a) *Moorebank Precinct West - Stage 2 Amended Proposal Biodiversity Assessment Report,* prepared for Sydney Intermodal Terminal Alliance.

Arcadis (2019b) *Moorebank Precinct – Nest Box Advice,* prepared for Sydney Intermodal Terminal Alliance.

DotEE (2017) Species Profile and Threats Database, Department of the Environment, Canberra http://www.environment.gov.au/sprat. Accessed October 2017.

OEH (2014) *Framework for Biodiversity Assessment.* Office of Environment and Heritage, September 2014.

OEH (2017) *Species Profile:* Hibbertia fumana. http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20323 accessed 30 May 2017.

Parsons Brinckerhoff (2014) *Moorebank Intermodal Freight Terminal – Ecological Impact Assessment.* Prepared for the Moorebank Intermodal Company.

Parsons Brinckerhoff (2015a) *Biodiversity Offset Strategy.* Appendix C of the Moorebank Intermodal Terminal Response to Submissions Report.

Parsons Brinckerhoff (2015b) *Framework for Biodiversity Assessment credit report.* Appendix A of Appendix C of the Moorebank Intermodal Terminal Response to Submissions Report.

Parsons Brinckerhoff (2015c) *Biodiversity Offset Areas Biodiversity Assessment Report.* Appendix A of the Moorebank Intermodal Terminal Supplementary Response to Submissions Report.

APPENDIX A – SECONDARY CONDITIONS MATRICES

Secondary EPBC Conditions of Approval

CoC No.	Condition	CFFMP Section
14	To address residual impacts on protected biodiversity values, including listed threatened species and communities, the person taking the action must finalise a biodiversity offset strategy (BOS). The BOS must be approved in writing within twelve (12) months of commencement of early works, by a relevant New South Wales regulator, and once approved must be implemented. The BOS must be prepared by a suitably qualified expert and must:	Addressed in the Biodiversity Offset Package (BOP)
	a) be consistent with the biodiversity offsets strategy provided at Appendix E to the finalised EIS	
	b) incorporate all measures 6S, 6U, 6W and 6Y to 6AA from Table 7.1 of the finalised EIS that are described as 'mandatory'	
	c) incorporate all measures 6S, 6U, 6W and 6Y to 6AA from Table 7.1 of the finalised EIS that are described as 'subject to review' or justify any alternative protocols	
	d) offset impacts on protected biodiversity values including listed threatened species and communities in accordance with the FBA	
	e) include map(s) and shapefiles that identify the location and boundaries of all offset sites	
	f) be approved by a relevant New South Wales regulator, and also by the Minister if the BOS does not involve the protection and management in perpetuity of the 'Casula', 'Moorebank' and 'Wattle Grove' Offset Areas identified at Annexure 2.	
15	Until the BOS described in Condition 14 is approved, the person taking the action must manage the 'Casula', 'Moorebank' and 'Wattle Grove' Offset Areas identified at **Annexure 2**, for the protection of native vegetation, and in particular the vulnerable Small-Flower Grevillea (Grevillea parviflora subsp. parviflora) and endangered Nodding Geebung (Persoonia nutans).	Noted. No works will be undertaken in the Offset Areas.

Secondary Conditions of Consent

CoC No.	Condition	CFFMP Section	How Addressed
Secondary Conditions			
A3(d)	The development may only be carried out: …. (d) in accordance with the management and mitigation measures in **Appendix 2**	Section 3.3	Section 3.3 details the mitigation measures outlined in Appendix 2 of the CoC.
A10	No construction (including clearing and maintenance access) is permitted within the riparian corridor except for that identified on the revised drawings approved under **Condition B2** and activities associated with vegetation and stormwater management.	Section 3.3	No construction will occur outside boundaries marked on Development Layout Drawings.
A11	No works in the riparian corridor outside the site are permitted under this approval. ***Note**: DPI (Lands) must be consulted on design, approvals and licencing for any works on Crown land for the purposes of discharging stormwater from the site (including scour protection/ erosion control).*	Section 3.3	No construction will occur outside boundaries marked on Development Layout Drawings.
A27	References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent. However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	Section 2.1	Guidelines, protocols and Australian Standards relevant to biodiversity are listed in Section 2.1.
A28	Where conditions of this consent require consultation with an identified party, the Applicant must: a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and b) provide details of the consultation undertaken in the document submitted to the Planning Secretary including: i. the outcome of that consultation, matters resolved and unresolved (and the justification for matters remaining unresolved); and	Section 1.4 Appendix E – Evidence of Consultation	Section 1.4 details consultation undertaken in preparation of this CFFMP. Appendix F provides evidence of consultation undertaken for the preparation of this CFFMP.

CoC No.	Condition	CFFMP Section	How Addressed
	ii. details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.		
B2	Prior to commencement of construction, the Applicant must submit revised Development Layout Drawings to the Planning Secretary for approval. The revised Development Layout Drawings must be at a scale of approximately 1:2000 at A1 showing the key development elements including but not limited to estate infrastructure, internal roads, warehouse and associated carpark footprints, the freight village, intermodal terminal facility including the truck waiting area and emergency truck storage area, rail line and rail line vehicle access roads. The revised Development Layout Drawings must show the site, construction and operational boundaries and demonstrate:	MPW S2 Development Layout Drawings	The Development Layout Drawings show the key development elements as prescribed by the condition
	a) provision of a riparian corridor, comprising the following: i. a buffer zone to the most inland of: • 40 metres from the top of bank, as surveyed by a registered surveyor, or • the 1% AEP flood extent, excluding the localised depression at the existing major east-west drainage channel, and		
	ii. an additional 10 metre extension to the buffer zone established in (i) above, where native vegetation is located on or within 10 metres east of the buffer;		
	b) the siting of biofiltration/ bioretention areas and OSD basins (with the exception of outlets to the Georges River and associated maintenance access) are outside the riparian corridor and outside the warehouse footprints;		
	c) no construction or operation works would take place inside biodiversity offset areas;		
	d) compliance with the landscaped setbacks specified in **Condition B63**;		
	e) compliance with the percentage of landscaped area specified in **Condition B68(a)** within the warehouse and freight village area and truck waiting area and emergency truck storage area to be developed under MPW Stage 2;		

CoC No.	Condition	CFFMP Section	How Addressed
	f) a setback of 8 to 12 m has been provided around the north, south and western perimeters of the development area to accommodate fill batter slopes of a maximum of 1V in 4H;		
	g) a minimum 3 m wide maintenance access has been provided between the fill slopes and the riparian corridor, the ABB site and at the southern end of the development area, where necessary to ensure ongoing maintenance works can be carried out without impacting on the riparian corridor or adjoining sites;		
	h) provision of a controlled overland flow path through the MPW Stage 2 site as required under **Condition B11**		
	i) identify habitat corridor/s, of adequate dimensions to provide an adequate Koala habitat corridor as supported by a Koala specialist, to provide connectivity both within the Intermodal Precinct area and with other core koala habitat areas, as required under **Condition B152**. The drawings are to show any required connectivity structures and fencing;		
	j) provision of a corridor between Moorebank Avenue and the Georges River for a possible future pedestrian connection across the Georges River to Casula Railway Station, of a width that would allow the future construction of a shared path that complies with the relevant suggested width set out in the *Guide to Road Design Part 6A: Paths for Walking and Cycling* (Austroads, 2017);		
	k) the bushfire asset protection requirements are within the development area; and		
	l) setbacks from the surveyed boundary of Lot 2 DP 32998, Lot 3 DP 32998, and Lot 2 DP 547293.		
B41	b) with no disturbance (including vegetation clearing) of another area (other than construction of erosion and sediment control measures and associated drainage for the separation of clean and dirty water) until: (i) a C-factor of 0.05 has been achieved on the previous phase, and (ii) at least 75% of the permanent stabilisation works have been implemented for the previous phase, and (iii) at least 95% all of the permanent stabilisation works on any other previously disturbed area have been implemented.	Appendix B – Clearing Protocol	Appendix B provides details on the clearing protocol for the Project. The requirements of this CoC will be considered prior to vegetation clearing commencing.

CoC No.	Condition	CFFMP Section	How Addressed
B83	The Applicant must: a) implement measures to manage pests, vermin and declared noxious weeds on the site; and	Appendix C – Weed, Pest and Vermin Management Protocol	Appendix C outlines measures to manage pests, vermin and weeds on site.
	b) inspect the site on a regular basis 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. **Note**: *For the purposes of this condition, noxious weeds are those species subject to an order declared under the Biosecurity Act 2015.*	Section 4.1 Appendix C – Weed, Pest and Vermin Management Protocol	The monitoring requirements for weed, pests and vermin are identified in Section 4.1 and Appendix C.
B144	A **Salvage Strategy** must be developed in consultation with OEH and with relevant Registered Aboriginal Parties prior to any impacts on Aboriginal objects and sites.	N/A Aboriginal Archaeological Salvage Strategy	The Aboriginal Archaeological Salvage Strategy outlines the approach to Aboriginal heritage salvage for the Project.
B145	The scar tree portions of Aboriginal sites MA6 & MA7 are to be removed by a qualified arborist and relocated to a suitable area identified in consultation with Registered Aboriginal Parties.	Section 3.3 The Aboriginal Archaeological Salvage Strategy.	Section 3.3 outlines measures to manage the removal of the scar tree portions of Aboriginal sites MA6 and MA7. The Aboriginal Archaeological Salvage Strategy outlines the approach to Aboriginal heritage salvage for the Project.
B146	(a) Staged salvage excavation of selected areas should be conducted in consultation with Registered Aboriginal Parties. These stages include: (a) dispersed pits placed along transects within the Terrace PAD and the tertiary terrace (between MA10 and MA14 – refer to Figure 16-2 of the EIS); and (b) open area salvage excavation, targeting the artefact concentrations at MA10 and MA14, as well as any additional artefact concentrations identified during (a) above.	N/A Aboriginal Archaeological Salvage Strategy	The Aboriginal Archaeological Salvage Strategy outlines the approach to Aboriginal heritage salvage for the Project.
B147	Following completion of salvage, the Applicant must prepare an **Aboriginal Cultural Heritage Salvage Report** in accordance with any guidelines and standards or OEH requirements. The report must include details of any archival recording, further archaeological research either undertaken or to be carried out, and archaeological excavations (with artefact analysis and identification of a final repository for finds) and be submitted to the Planning Secretary, OEH,	N/A Aboriginal Archaeological Salvage Strategy	The Aboriginal Archaeological Salvage Strategy outlines the approach to Aboriginal heritage salvage for the Project.

CoC No.	Condition	CFFMP Section	How Addressed
	relevant Council(s) and Registered Aboriginal Parties, where relevant, for information within 12 months after the completion of salvage works.		
B152	Prior to clearing of native vegetation, a Koala Management Plan (KMP) must be prepared by a suitably qualified person in consultation with OEH and be submitted to the Planning Secretary for approval. The KMP must:	Koala Management Plan	The Koala Management Plan has been prepared to address this condition
	a) make reference to *A review of koala tree use across New South Wales* (OEH 2018);		
	b) identify habitat corridors, of adequate dimensions to provide an adequate Koala habitat corridor as supported by a Koala specialist, to provide connectivity both within the Intermodal Precinct area and with other core koala habitat areas (i.e. to the south and to the west along Georges River);		
	c) include commitment to retain Koala use trees on site in line with phased earthworks (see e.g. **Condition B40**);		
	d) include details of structures to eliminate barriers to movement (presented by fences, roads, drainage culverts or pits, rail lines and the like) for koalas and other native fauna likely to use the site or habitat corridor;		
	e) include details on koala habitat rehabilitation/ restoration within the identified habitat corridors; and		
	f) include other measures to minimise the risk of harm to koalas.		
B153	The Applicant must: a) ensure that no more than 42.89 hectares of native vegetation is cleared for the development; and	Table 1-1 Section 3.3	Table 1-1 outlines the objectives and targets set out for the project including setting clearing limits for the development. Section 3.3 outlines measures to manage vegetation clearing limits on the project site.
	b) before any work commences, install and maintain exclusion fencing along the riparian corridor and around any native vegetation not being removed as part of the development.	Section 3.3	Section 3.3 outlines measures to manage vegetation clearing limits on the project site.
B156	Prior to removing/ clearing any vegetation or any demolition, pre-clearing surveys and inspections for threatened species, populations and ecological communities must be undertaken. The surveys and inspections, and any subsequent relocation of species and associated management measures, must	Section 3.3 Appendix B – Clearing Protocol	Appendix B provides details on the clearing protocol for the Project, including undertaking pre-clearance surveys.

CoC No.	Condition	CFFMP Section	How Addressed
	be undertaken under the guidance of a suitably qualified and experienced ecologist.		
B157	Prior to any impact on the species to be offset, the Applicant must retire biodiversity credits specified in Table 5 and Table 6. The retirement of credits must be carried out in accordance with the NSW Biodiversity Offsets Policy for Major Projects (OEH 2014).	Section 3.3 Appendix B – Clearing Protocol	The management measures and clearing protocol state that no impacts on offset species can occur until the biodiversity credits required have been retired. This is further detailed in the Biodiversity Offset Package
B158	The Applicant: a) may elect to retire biodiversity credits in conjunction with the retirement of biodiversity credits for other developments on the MPE or MPW developments, prior to the commencement of construction of this development, provided it is not inconsistent with Condition B157; and	Section 3.3 Appendix B – Clearing Protocol	The management measures and clearing protocol state that no impacts on offset species can occur until the biodiversity credits required have been retired. This is further detailed in the Biodiversity Offset Package
	b) is not required to retire credits for biodiversity impacts that it has already offset under another development consent, pending the provision of evidence of what credits were retired to offset which development.	Section 3.3 Appendix B – Clearing Protocol	The management measures and clearing protocol state that no impacts on offset species can occur until the biodiversity credits required have been retired. This is further detailed in the Biodiversity Offset Package.
B159	If any native flora or fauna is identified on site that has not been previously identified in the documents listed in **Condition A3:**	Section 3.3 Appendix D of the CEMP – Unexpected Finds Protocol	Section 3.3 includes management measures that will be undertaken when unexpected native flora and fauna finds are identified. Appendix D of the CEMP (Unexpected Finds Protocol) describes the process to follow in the event that unexpected threatened flora and/or fauna species or threatened ecological communities are identified.
	a) work must cease in the vicinity;		
	b) a buffer zone must be established in consultation with the project ecologist;		
	c) OEH must be notified;		
	d) appropriate mitigation measures must be determined in consultation with OEH (including relevant re- location measures); and		
	e) ecological monitoring and/ or biodiversity offset requirements must be updated, where required.		
B164	Prior to vegetation clearing: a) the Applicant must identify contamination within vegetation areas and prepare options for remediation in those areas, with objectives to:	Appendix B – Clearing Protocol	Section 3.3 outlines requirements for the clearing of vegetation within contaminated areas.

CoC No.	Condition	CFFMP Section	How Addressed
	(i) retain vegetation to the greatest extent possible beyond the completion of remediation		Appendix B outlines the process to be followed to manage clearing activities.
	(ii) minimise land disturbance in accordance **Condition B41**; and	Construction Soil and Water Management Plan Section 3.3	The Construction Soil and Water Management Plan required under CoC B29 addresses provisions for the minimisation of land disturbance in accordance with CoC B41. Section 3.3 outlines measures for the minimisation of land disturbance.
	(iii) not reduce the ability to provide connectivity and habitat corridors in accordance with Conditions B2 and B152;	Section 3.3	Section 3.3 includes a management measure that ensures remediation options that minimise clearing will be considered to retain connectivity and habitat corridors for koalas.
	b) where remediation requires prior vegetation clearing, an appropriate assessment of the impact of clearing on contaminated land must be prepared by a suitably qualified and experience consultant; and	Appendix B – Clearing Protocol	Appendix B outlines the process to be followed prior to the commencement of clearing.
	c) where contamination is identified as occurring within those areas where vegetation is proposed to be cleared, a **Contamination Management Plan** must be prepared in consultation with the Site Auditor detailing the location and nature of the contamination and the proposed remediation and/or management measures that will be undertaken to address the on-site and potential off-site impacts	Appendix B – Clearing Protocol Section 3.3	Appendix B outlines the process to be followed prior to the commencement of clearing. Section 3.3 outlines the requirement for the development of a Contamination Management Plan, as required.
B165	A copy of the assessment required by **Condition B164** above and any associated update of the CEMP required must be provided to the Planning Secretary for approval one month before commencement of vegetation clearing. Evidence of consultation with the Site Auditor must be included.	Appendix B – Clearing Protocol	A copy of the assessment required under Condition B164 will be provided to the Planning Secretary.
B175	The CEMP required under Condition C2 must include an Unexpected Finds Protocol(s) for, but not limited to, contamination, ordnances, Aboriginal sites, non-indigenous heritage and flora and fauna.	Appendix D of the CFFMP – Unexpected Finds Protocol	Appendix D of the CEMP (Unexpected Finds Protocol) describes the process to follow in the event that unexpected threatened flora and/or fauna species or threatened ecological communities are identified. Also, Appendix D of the CEMP (Unexpected Finds Protocol) includes procedures to manage the unexpected discovery of contamination within imported spoil, heritage items, onsite

CoC No.	Condition	CFFMP Section	How Addressed
			contamination during the construction phase and ordnances finds.
C3	As part of the CEMP required under **Condition C2** of this consent, the Applicant must include the following: … f) Construction Flora and Fauna Management Plan (see Condition B154); and …		This CFFMP

Secondary Final Compilation of Mitigation Measures (FCMM)

No.	Requirement	Where Addressed
Secondary Condition		
0E	The Proposal is not anticipated to include any works within the Georges River. Should works be required within the Georges River consultation with the Department of Primary Industries (Crown Lands) would be undertaken	Section 3.3
4B	Vegetation clearing would be restricted to the construction footprint with sensitive areas, outside of this footprint, clearly identified as vegetation exclusion zones.	Section 3.3
4C	The vegetation exclusion zones would be marked on maps, which would be prepared by the contractor/s, and would also be marked on the ground using high visibility fencing (such as barrier mesh).	Section 3.3
4D	A suitably qualified ecologist would accompany clearing crews to ensure disturbance is minimised and to assist in relocating any native fauna to adjacent habitat.	Section 3.3
4E	The following procedures would be implemented to minimise fauna impacts from vegetation clearance: • A staged habitat removal process would be developed and would include the identification and marking of all habitat trees in the area • Where reasonable and feasible, clearing of hollow-bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow-bearing tree dependent birds in the locality are also unlikely to be breeding • Pre-clearing surveys would be conducted 12 to 48 hours before vegetation clearing to search for native wildlife (e.g. reptiles, frogs, Cumberland Land Snail) that can be captured and relocated to the retained riparian vegetation of the Georges River corridor • Vegetation would be cleared from a 10 m radius around habitat trees to encourage animals roosting in hollows to leave the tree. A minimum 48 hour waiting period would allow animals to leave • After the waiting period, standing habitat trees would be shaken (where safe and practicable) under the supervision of an ecologist to encourage animals roosting in hollows to leave the trees, which may then be felled, commencing with the most distant trees from secure habitat • Felled habitat trees would either be immediately moved to the edge of retained vegetation, or left on the ground for a further 24 hours before being removed from the construction area, at the discretion of the supervising ecologist All contractors would have the contact numbers of wildlife rescue groups and would be instructed to coordinate with these groups in relation to any animal injured or orphaned during clearing.	Section 3.3 Appendix B
4F	Within areas of high quality intact native vegetation proposed to be removed: • Topsoil (and seedbank) would be collected from native vegetation that are to be permanently cleared and used in the revegetation of riparian areas	Section 3.3 Appendix B

No.	Requirement	Where Addressed
	• Where feasible and reasonable native plants in areas that are to be permanently cleared would be relocated and transplanted in riparian areas identified for rehabilitation.	
4G	Relocation of fauna to adjacent retained habitat would be undertaken by a suitably qualified ecologist during the supervision of vegetation removal.	Section 3.3
4H	An ecologist would supervise the drainage of any waterbodies on the Proposal site and would relocate tortoises and frogs to the edge of the Georges River and/or the existing pond at the northern end of the Proposal site. Native fish (e.g. eels) that are endemic to the Sydney area would be translocated from drained ponds/dams on the site to natural waterways and pest fish would be euthanised on ice. If non-endemic native species are encountered on site, DPI Fisheries would be consulted to determine the best location to translocate this species.	Section 3.3
4I	The design of temporary site fencing and any overhead powerlines would consider the potential for collision by birds and bats and minimise this risk where practicable.	Section 3.3
4J	The potential for translocation of threatened plant species as individuals or as part of a soil translocation process would be considered during the detailed development of the EWMS and CEMP.	Section 3.2.3
4K	Important habitat elements (e.g. large woody debris) would be moved from the construction area to locations within the conservation area which would not be cleared during the Proposal, or to stockpiles for later use in vegetation/habitat restoration.	Section 3.3
4L	Winter-flowering trees would be preferentially planted in landscaped areas of the Proposal site to provide a winter foraging resource for migratory and nomadic nectar-feeding birds and the Grey-headed Flying-fox.	Section 3.3
4M	Erosion and sediment control measures such as silt fencing and hay bales would be used to minimise sedimentation of streams and resultant impacts on aquatic habitats and water quality.	Section 3.3 Construction Soil and Water Management Plan
4S	Ongoing monitoring of macroinvertebrate communities would be undertaken prior to, during and following construction upstream and downstream of the potential impacts at the proposed basin outlets in the Georges River and reference locations to assist in identifying any changes in aquatic communities.	Section 4.1
4U	The native vegetation and connectivity values in the proposed basin outlets would be monitored to ensure that fauna passage is maintained.	Section 3.3
4W	A monitoring program would be developed and implemented to measure the performance of revegetation activities in the Georges River riparian zone and associated conservation area.	Section 4.1

Secondary Revised Environmental Management Measures (REMM)

No.	Requirement	CFFMP Section
Secondary Condition		
6B	Vegetation clearing would be restricted to the construction footprint and sensitive areas would be clearly identified as exclusion zones.	Section 3.3
6C	The exclusion zones would be marked on maps, which would be provided to contractors, and would also be marked on the ground using high visibility fencing (such as barrier mesh).	Section 3.3
6D	A trained ecologist would accompany clearing crews to ensure disturbance is minimised and to assist in relocating any native fauna to adjacent habitat.	Section 3.3 Appendix B
6E	A staged habitat removal process would be developed and would include the identification and marking of all habitat trees in the area. Where reasonable and feasible, clearing of hollow-bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow-dependent birds in the locality are also unlikely to be breeding. Pre-clearing surveys would be conducted 12 to 48 hours before vegetation clearing to search for native wildlife (e.g. reptiles, frogs, Cumberland Land Snail) that can be captured and relocated to the retained riparian vegetation of the Georges River corridor. Vegetation would be cleared from a 10 m radius around habitat trees to encourage animals roosting in hollows to leave the tree. A minimum 48 hour waiting period would allow animals toleave. After the waiting period, standing habitat trees would be shaken (where safe and practicable) under the supervision of an ecologist to encourage animals roosting in hollows to leave the trees, which may then be felled, commencing with the most distant trees from secure habitat. Felled habitat trees would either be immediately moved to the edge of retained vegetation, or left on the ground for a further 24 hours before being removed from the construction area, at the discretion of the supervising ecologist. All contractors would have the contact numbers of wildlife rescue groups and would be instructed to coordinate with these groups in relation to any animal injured or orphaned during clearing. Within areas of high quality intact native vegetation proposed to be removed: • topsoil (and seedbank) is to be collected from native vegetation that are to be permanently cleared and used in the revegetation of riparian areas; and native plants in areas that are to be permanently cleared are to be relocated and transplanted in riparian areas identified for rehabilitation.	Appendix B
6F	Relocation of fauna to adjacent retained habitat would be undertaken by an ecologist during the supervision of vegetation removal.	Section 3.3

No.	Requirement	CFFMP Section
6G	An ecologist would supervise the drainage of any waterbodies on the Project site and would relocate native fish (e.g. eels), tortoises and frogs to the edge of the Georges River and/or the existing pond at the northern end of the IMT site.	Section 3.3
6H	The design of site fencing and any overhead powerlines would consider the potential for collision by birds and bats and minimise this risk where practicable.	Section 3.3
6I	The potential for translocation of threatened plant species as individuals or as part of a soil translocation process would be considered during the detailed development of the CEMP.	Section 3.2.3
6K	Important habitat elements (e.g. large woody debris) would be moved from the construction area to locations within the conservation area which would not be cleared during the Project, or to stockpiles for later use in vegetation/habitat restoration.	Section 3.3
6L	Winter-flowering trees would be preferentially planted in landscaped areas of the Project site to provide a winter foraging resource for migratory and nomadic nectar-feeding birds and the Grey-headed Flying-fox.	Section 3.3
6O	Erosion and sediment control measures such as silt fencing and hay bales would be used to minimise sedimentation of streams and resultant impacts on aquatic habitats and water quality.	Construction Soil and Water Management Plan
6S	The Project would include a long-term program for the duration of the Project operation of weed removal and riparian vegetation restoration within parts of the Georges River corridor, which would include monitoring landscaped areas for the presence of noxious and environmental weeds. A preliminary weed management strategy is provided in Appendix E of Technical Paper 3 – *Ecological Impact Assessment* in Volume 4 of the Draft EIS,setting out the principles for the management of the riparian zone.	Moorebank Intermodal Company: BioBanking Assessment Report (WSP 2018)
6U	The management of the conservation area along the Georges River would include management of fire regimes to promote biodiversity conservation.	Moorebank Intermodal Company: BioBanking Assessment Report (WSP 2018)
6X	Ongoing monitoring of macroinvertebrate communities will be undertaken prior to, during and following construction upstream and downstream of the proposed impact at the Georges River Bridge and reference locations to assist identify any changes in aquatic communities.	Section 4.1
14C	Lighting required during construction of the Project would be designed and located to minimise the effects of light spill on surrounding sensitive receivers, including residential areas and the proposed conservation area.	Section 3.3

APPENDIX B – CLEARING PROTOCOL

Purpose

This protocol explains the actions and measures to be implemented prior to the commencement of vegetation clearing in the Project site.

Scope

This protocol is applicable to all vegetation that occurs in the Project Site.

Training

All personnel undertaking clearing activities, or directly involved with works, will be trained in this protocol through Toolbox Talks or a site induction.

Protocol

Planning of Clearing Works

Biodiversity

The biodiversity credits listed in CoC B157 must be retired prior to any impact upon those species listed for offset i.e.:

- Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin (ME003)
- Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin (ME005)
- Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin (ME018)
- Nodding Geebung (*Persoonia nutans*)
- *Hibbertia puberula* subsp. *puberula*
- Small-flower Grevillia (*Grevillea parviflora* subsp. *parviflora*)
- Koala (*Phascolarctos cinereus*)

Where reasonable and feasible, clearing of hollow-bearing trees would be undertaken in March and April when most microbats are likely to be active (not in torpor) but are unlikely to be breeding or caring for young, and when threatened hollow-bearing tree dependent birds in the locality are also unlikely to be breeding.

Contamination in Vegetated Areas

The Principal's Representative is to identify contamination in vegetated areas and identify options for remediation and or management that minimise the extent of clearing required.

Where remediation is required an assessment of the impact of clearing on contaminated land is to be prepared by a suitably qualified and experienced consultant. A copy of the assessment and any associated update of the CEMP required is to be provided to the Planning Secretary for approval one month before commencement of vegetation clearing. Evidence of consultation with the Site Auditor must be included.

Where contamination is identified as occurring within areas where vegetation is proposed to be cleared a Contamination Management Plan is to be prepared in consultation with the Site Auditor.

Prior to Commencement of Clearing

At least two weeks prior to proposed vegetation clearing the Contractor's Environment Manager (EM) will ensure that the following actions have been implemented. Each action must be checked off by the Project Ecologist (PE) and Contractor's EM.

Pre-clearing Management Action	PE (√)	EM (√)
The Principal's Representative must retire the biodiversity credits for offset species prior to any impact upon those species.		

Pre-clearing Management Action	PE (√)	EM (√)
The Project Ecologist has undertaken an assessment of vegetation within the construction footprint (from which vegetation will be cleared), and will identify any threatened species, populations and ecological communities. Any previously unidentified threatened species, populations and ecological communities must be managed in accordance with the Unexpected Finds Protocol (CEMP Appendix D). All hollow-bearing trees within the construction footprint will be clearly marked as follows: » **'H'** = Habitat Tree. If hollow-bearing or habitat trees are identified as requiring removal the two-staged clearing process outlined below is to be implemented and the clearing supervised by the Project ecologist. » **O** = Ecologist has assessed the tree and it is ready for removal. » **O** = Ecologist has assessed the tree and it requires pre-inspection immediately prior to, and during removal. The tree must be cleared in accordance with the two-staged clearing process which is outlined below.		
The Project Ecologist will identify native plants in areas to be cleared that are suitable for translocation to areas identified for rehabilitation		
The Project Ecologist has identified weed infestation within the Project site and weeds are managed in accordance with the Weed, Pest and Vermin Management Protocol (Appendix C of this CFFMP).		
Sediment control measures have been installed in accordance with the Construction Soil and Water Management Plan, particularly along the western boundary of the Project site so that potential indirect impacts to George's River are avoided.		
The Project Ecologist has identified areas suitable for the release of fauna, if fauna species encountered immediately prior to or during clearing activities require relocation. Suitable areas will most likely be contained within the riparian corridor of Georges River however, this must be confirmed by the Project Ecologist. Note that no additional nest boxes are required to be installed at present (Section 3.3.2 of this CFFMP).		
The Project Ecologist is present during the felling of hollow-bearing trees.		

Site Preparation

Immediately prior to vegetation clearing, the Contractor's EM will ensure that the following actions have been implemented. Each action must be checked off by the Contractor's EM.

Site Preparation Management Action	EM (√)
All pre-clearing management actions listed in the pre-clearing checklist has been completed.	
The boundary of the clearing footprint is clearly fenced or delineated on site and shown on all relevant plans. Note: No more than 42.89 hectares in total of native vegetation is permitted to be cleared.	
No disturbance (including vegetation clearing) of another area (other than construction of erosion and sediment control measures and associated drainage for the separation of clean and dirty water) until: • a C-factor of 0.05 has been achieved on the previous phase, and • at least 75% of the permanent stabilisation works have been implemented for the previous phase, and • at least 95% all of the permanent stabilisation works on any other previously disturbed area have been implemented.	

Site Preparation Management Action	EM (√)
All construction personnel (subcontractors and employees) involved in the clearing are trained via Toolbox Talks or pre starts or on the environmental risks and aspects of vegetation clearing, including: • Clearing limits and “NO-GO” areas; • Two stage clearing for hollow-bearing trees; • Location and attributes of threatened flora species, and attributes of threatened fauna species that may occur in the project site; • Guideline for working around trees; • If any timber is to be reused for milling or mulching; • The Unexpected Finds Protocol (Appendix C of this CFFMP).	
Sediment and erosion controls are in place (in accordance with the Construction Soil and Water Management Plan and the Construction Erosion and Sediment Control Plan).	

Vegetation Clearing

A two-stage approach to the clearing of habitat trees is to be used for trees marked **'H'** or **O** by the Project Ecologist during pre-clearing surveys. The Project Ecologist must be present for the clearing of each habitat tree.

Clearing Management Actions	EM (√)
Stage 1	
Trees marked **O** by the Project Ecologist during pre-clearing surveys must be felled at least 48 hours prior to habitat tree removal.	
Habitat trees (marked **'H'** or **O**) are to be remain standing for a period of 48 hours while non-habitat trees area felled, to allow fauna to vacate the habitat on their own accord. Vegetation may be cleared from a 10m radius around habitat trees (marked **'H'** or **O**) to encourage animals roosting in hollows to leave the tree.	
Stage 2	
After a period of 48 hours, standing habitat trees will be shaken (where safe and practicable) under the supervision of an ecologist to encourage animals roosting in hollows to leave. After this, clearing of habitat trees (marked **'H'** or **O**) can commence.	
Habitat trees are to be knocked with an excavator bucket or other machinery to encourage fauna to evacuate the tree immediately prior to felling.	
If an animal is detected in a tree prior to pushing over, the clearing activities are to cease to allow fauna time to leave, or the animal is carefully removed from the tree by the supervising ecologist.	
Tree should be "soft-felled", i.e. felled in sections and/or lowered to the ground slowly by an excavator.	
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. After this, felled trees must be either immediately removed to the edge of retained vegetation if left for a maximum of 24 hours within the construction area.	
Felled hollow bearing trees must be inspected by an Ecologist as soon as possible (not longer than two hours after felling), to check for injured or immature fauna.	
Animals found prior to or during clearing activities will be released to the suitable location previously identified by the Project Ecologist. The relocation of fauna to adjacent retained habitat will be undertaken by a suitably qualified ecologist or fauna handler.	
If any animal is injured, contact the relevant local wildlife rescue agency (e.g. WIRES) and/or local veterinary surgery as soon as practical. • WIRES: 1300 094 737 • Sydney Wildlife Rescue: 9413 4300 • Moorebank Veterinary Hospital: 8798 4859 • Liverpool Veterinary Hospital: 9602 6015. 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: • Handling fauna with care and as little as possible. • Covering larger animals with a towel or blanket and placing in a large cardboard box.	

Clearing Management Actions	EM (√)
• Placing small animals in a cotton bag, tied at the top. Keeping the animal in a quiet, warm, ventilated and dark location. • In the case of arboreal or flying mammals, attempts will be made to relocate the den or nest. After capture, the animal(s) will be held by a trained wildlife carer for a period of no longer than two weeks until the roost or den can be relocated, either as an entire tree or part thereof.	
Work may recommence once the animal(s) have been captured and removed from the area.	
Excess native vegetation material may be mulched and used on the Project site as erosion and sediment control or landscaping. Excess non-native vegetation must be removed from the Project site to an approved green waste facility. Cut logs may be placed in retained vegetation in offset areas under the direction of the Project Ecologist.	
Areas of high quality intact native vegetation (determined at the discretion of the surveying ecologist) which are designated to be cleared must have associated topsoil used for revegetation of riparian areas.	

APPENDIX C – WEED, PEST AND VERMIN MANAGEMENT PROTOCOL

Purpose

This Weed, Pest and Vermin Management Protocol explains the actions and measures to be implemented if any weeds, pest species and/or vermin are found in the Project site. To date, 12 weeds listed as priority weeds for the Greater Sydney Region under the *Biosecurity Act* 2015, of which nine are also listed as Weeds of National Significance (WoNS) (Australian Weeds Committee 2010) have been identified on the Project site.

This Weed, Pest and Vermin Management Protocol prescribes measures to manage weeds, pests and vermin that may be identified in the Project site, in accordance with the *Biosecurity Act* 2015 and the *Pesticides Act 1999* and *Pesticides Regulation 2017.* The *Biosecurity Act* 2015 repeals the *Noxious Weed Act 1993* as of 1 July 2017.

Training

All personnel undertaking construction activities within the Project site will be inducted on the identification of priority weed species/WoNS, pest species and vermin that may occur on the Project site and will be trained in this protocol through Toolbox Talks or a site induction.

Protocol

Prevent introduction of noxious weeds, pest species and/or vermin

As outlined in Section 3.3 of the CFFMP, the following management measures must be implemented to prevent the introduction of weeds to the Project site:

- Vehicles, equipment, materials and footwear are to be clean on entry (free of soil, mud and/or seeds) to minimise the introduction or spread of weeds; a wheel wash to be installed at the Project site entry.
- No spoil, excavated material, plant or equipment is to be stockpiled or stored outside of the delineated “NO-GO” zones
- Undertake weekly inspections of cleared and disturbed areas, to identify the presence of establishing weeds.

Identification of weeds, pest species and/or vermin

The movement of people, plant and equipment during construction activities has the potential to introduce weed propagules to the construction footprint. Disturbed areas (i.e. where the soil profile has been disturbed by vegetation clearing and/or earthworks) are most susceptible to the establishment of weeds.

Weeds, pest species and/or vermin may be identified on the Project site during the weekly inspections of cleared and disturbed areas that must be carried out, in accordance with the monitoring requirements prescribed by Section 4.1 of the CFFMP. Known weed species are listed in the table below.

Weed	Status
Alligator Weed; *Alternanthera philoxeroides*	WoNS, priority weed
Ground Asparagus; *Asparagus aethiopicus*	WoNS, priority weed
Bridal Creeper; *Asparagus asparagoides*	WoNS, priority weed

Weed	Status
Boneseed; *Chrysanthemoides monilifera* subsp. *monilifera*	WoNS, priority weed
Bitou Bush; *Chrysanthemoides monilifera* subsp. *rotundata*	WoNS, priority weed
Lantana; *Lantana camara*	WoNS, priority weed
Blackberry; *Rubus fruticosus*	WoNS, priority weed
Sagittaria; *Sagittaria platyphylla*	WoNS, priority weed
Salvinia; *Salvinia molesta*	WoNS, priority weed
Fireweed; *Senecio madagascariensis*	WoNS, priority weed
Giant Reed; *Arundo donax*	Priority weed
Peruvian Primrose; *Ludwigia peruviana*	Priority weed
African Olive; *Olea europaea* subsp. *cuspidata*	Priority weed

Management of weeds, pest species and/or vermin

If weeds, pests and/or vermin are identified in the Project site, the following steps must be implemented.

1. **IDENTIFY WEED, PEST SPECIES AND/OR VERMIN**

   The Contractor's Environment Manager (Contractor's EM) or Environmental Officer (EO) is to contact the Project Ecologist (PE), who will identify the weed, pest or vermin to species level.

2. **REMOVE WEED, PEST SPECIES AND/OR VERMIN**

   The PE must recommend management measures specific to the species identified in the Project site. Management measures may include:

   a. Physical removal of weed species.

   b. Application of herbicides for chemical removal of a weed species in accordance with requirements of the *Pesticides Act 1999* and *Pesticides Regulation 2017*.

   c. Record details of any pesticide or herbicide used in accordance with the *Pesticides Regulation 2017*

   d. Disposal of weed and non-native vegetation.

   e. Capture or deterrent of a fauna pest species.

   f. Capture fauna vermin species or removal of flora vermin species.

3. **CONTINUE MONITORING FOR WEED, PEST SPECIES AND/OR VERMIN**

   The Contractor's EM must ensure that the weed, pest species or vermin is included in subsequent inductions and Toolbox Talks. Subsequent weekly inspections must include inspections of areas from which weeds, pest species or vermin have been removed.

   Inspect the Project site on a regular basis, no less than every three months, to ensure that the measures in this protocol are working effectively, and that pests, vermin or noxious weeds are not present on the Project site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in the surrounding area.

APPENDIX D – THREATENED SPECIES PRESENT ON SITE

Threatened species present on site – Nodding Geebung *Persoonia nutans*

An erect to spreading shrub to 2.5 m high with hairy young branches. Leaves are well separated on mature stems, linear, 1 - 3 cm long, 1 - 1.8 mm wide, usually flat, with recurved margins. They are sparsely hairy when immature, and hairless when mature. Flowers are yellow, pendant to drooping on a stalk to 12 mm long. Flowering typically occurs from November to March. (OEH TSPD 2016)

Northern populations are confined to aeolian and alluvial sediments and occur in a range of sclerophyll forest and woodland vegetation communities, with the majority of individuals occurring within Agnes Banks Woodland or Castlereagh Scribbly Gum Woodland and some in Cooks River / Castlereagh Ironbark Forests. Southern populations also occupy tertiary alluvium, but extend onto shale sandstone transition communities and into Cooks River / Castlereagh Ironbark Forest. (OEH TSPD 2016)

Nodding Geebung (OEH 2016)

Nodding Geebung flower (OEH 2016)

The species is known to occur within the study area in Castlereagh Scribbly Gum Woodland EEC (Figures 1 and 2).

Threatened species present on site – Small-flowered Grevillea *Grevillea parviflora* subsp. *parviflora*

A low spreading to erect shrub, usually less than a metre high. It has erect narrow leaves are 2-3.5 mm long and less than 1.3mm wide, with silky hairs on the underside and a short pointed tip. Leaf margins are curved

back, or even rolled completely under. The small flowers are spider-like and clustered in groups of 6-12. The whole flower, both tube and protruding style, is white, aging to pinkinsh-red, with rusty-brown hairs on the outside of the corolla. (OEH TSPD 2016)

Grows in sandy or light clay soils usually over thin shales, often with lateritic ironstone gravels and nodules. Sydney region occurrences are usually on Tertiary sands and alluvium, and soils edrived from the Mittagong Formation. Soil landscapes include Lucas Heights or Berkshire Park. Occurs in a range of vegetation types from heath and shrubby woodland to open forest. In Sydney it has been recorded from Shale Sandstone Transition Forest and in Cooks River / Castlereagh Ironbark Forest at Kemps Creek. (OEH TSPD 2016)

Small-flowered Grevillea (OEH 2016)

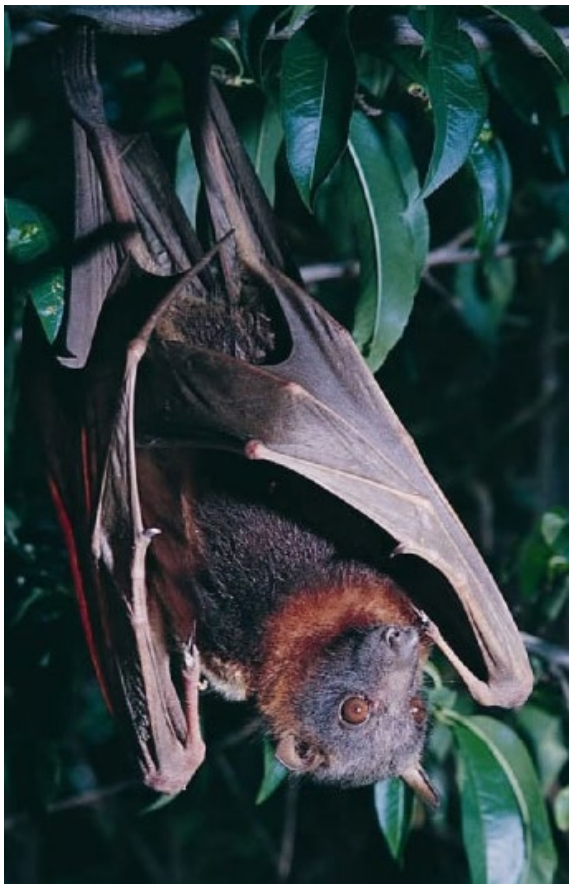
Small-flowered Grevillea habita and habitat (OEH 2016)

The species is known to occur within the study area in Castlereagh Scribbly Gum Woodland EEC (Figures 1 and 2).

Threatened species present on site – Grey-headed Flying-fox *Pteropus poliocephalus*

The Grey-headed Flying-fox is the largest Australian bat, with a head and body length of 23 - 29 cm. It has dark grey fur on the body, lighter grey fur on the head and a russet collar encircling the neck. The wing membranes are black and the wingspan can be up to 1 m. (OEH TSPD 2016)

Roosting camps are generally located within 20 km of a regular food source and are commonly found in gullies, close to water, in vegetation with a dense canopy. Feed on the nectar and pollen of native trees, in particular Eucalyptus, Melaleuca and Banksia, and fruits of rainforest trees and vines. (OEH TSPD 2016)



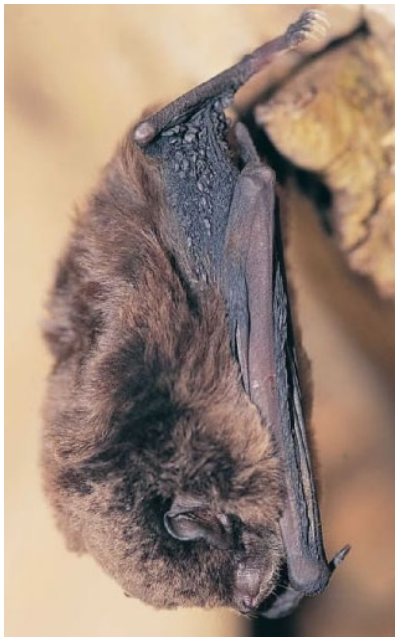
Grey-headed Flying-fox Pteropus poliocephalus (OEH 2016)

Threatened species highly likely to be present on site (Parsons Brinckerhoff 2014)

Little Lorikeet *Glossopsitta pusilla* (OEH 2016)

The Little Lorikeet is found in forests, woodland, and in treed areas along watercourses and roads. Forages mainly on flowers, nectar and fruit. Found along coastal east Australia from Cape York in Queensland down east coast and round to South Australia. Uncommon in southern Victoria (Higgins 1999, Parsons Brinckerhoff 2014).

Eastern Bent-Wing Bat *Miniopterus schreibersii oceanensis* (OEH 2016)



Usually found in well-timbered valleys where it forages on small insects above the canopy. Roosts in caves, old mines, stormwater channels and sometimes buildings and often return to a particular nursery cave each year (Churchill 2008, Parsons Brinckerhoff 2014).

Eastern Free-tail Bat *Mormopterus norfolkensis* (OEH 2016)

The Eastern Freetail-bat is found along the east coast from south Queensland to southern NSW. Occurs in dry sclerophyll forest and woodland east of the Great Dividing Range. Roosts mainly in tree hollows but will also roost under bark or in manmade structures (Churchill 2008). It will travel and forage in open country or along creek lines and may utilise remnants too isolated or disturbed for many other species. (Department of Environment and Climate Change 2007, Parsons Brinckerhoff 2014).

Southern Myotis *Myotis macropus* (OEH 2016)

Colonies occur in caves, mines, tunnels, under bridges and buildings. Colonies always occur close to bodies of water where this species feeds on aquatic insects (Churchill 2008, Parsons Brinckerhoff 2014).

Threatened species potentially present on site

Bynoes Wattle *Acacia bynoeana* (OEH 2016) Species is known to occur within Castlereagh Scribbly Gum Woodland EEC (Figures 1 and 2).

Downy Wattle *Acacia pubescens* (OEH 2016) Species is known to occur within highly disturbed areas with no or limited native vegetation, and EEC vegetation surrounding the study area. EEC vegetation present within the study area is not known to support the species.

***Dillwynia tenuifolia* (OEH 2016)** Species is known to occur within Castlereagh Scribbly Gum Woodland EEC and Castlereagh Swamp Woodland (Figures 1 and 2).

Woronora Beard-heath *Leucopogon exolasius* (OEH 2016) Species is known to occur within Castlereagh Scribbly Gum Woodland EEC and Castlereagh Swamp Woodland EEC (Figures 1 and 2).

Hairy Geebung *Persoonia hirsuta* (OEH 2016) Species is known to occur within River-flat Eucalypt Forest EEC (Figures 1 and 2).

Sydney Bush-pea *Pultenaea parviflora* (OEH 2016) Species is known to occur within Castlereagh Scribbly Gum Woodland EEC (Figures 1 and 2).

Cumberland Plain Land Snail carapace (OEH 2016) Species known to occur in leaf litter and flaking bark detritus around the bases of mature trees. Likely to occur on the edges of EEC vegetation.

Cumberland Plain Land Snail (OEH 2016)

APPENDIX E – NEST BOX ADVICE

MEMO

ARCADIS Design & Consultancy for natural and built assets

Date 19/12/2019
To [redacted] (Tactical Group)
From [redacted] (Arcadis)
Copy to [redacted]
Subject Moorebank Precinct – Nest Box Monitoring Report Spring 2019

Introduction

The Sydney Intermodal Terminal Alliance (SIMTA) and Moorebank Intermodal Company have entered an agreement to develop the Moorebank Precinct East (MPE) Project and Moorebank Precinct West (MPW) Project into the Moorebank Logistics Park (MLP).

The MLP is located approximately 27 kilometres (km) south-west of the Sydney Central Business District (CBD) and approximately 26 km west of Port Botany within the Liverpool Local Government Area (LGA), in Sydney's South West Sub-Region, approximately 2.5 km from Liverpool City Centre.

The MLP involves the development of an Import Export (IMEX) terminal on MPE and interstate terminal on MPW including rail links to the Southern Sydney Freight Line (SSFL), warehouse and distribution facilities, freight village, road and intersection upgrades, and ancillary activities such as landscaping and utilities installation and diversion.

Approval for the construction and operation of the MLP is divided into respective east and west precincts as follows:

- Stage 1 (SSD 6766), divided into Package 1 (RALP) and Package 2 (IMEX), and Stage 2 (SSD 7628) of MPE under the MPE Concept Consent (MP10_0193) was provided in March 2018 (as amended through the Land and Environment Court) and January 2018 respectively. Commonwealth approval (EPBC 2011/6299) was received in March 2014.
- MPW Concept and Stage 1 (SSD 5066) received approval in June 2016, with commonwealth approval (EPBC 2011/6086) in September 2016. MPW Stage 2 (SSD 7709) received approval on 11 November 2019.

Purpose

Vegetation clearing has been progressively undertaken within both MPE and MPW and included the removal of hollow-bearing trees that provided habitat for hollow-dependent fauna. In accordance with approval requirements, (refer to Table 1), a separate Nest Box Strategy (NBS) was developed for MPE Stage 1 – RALP, and MPW Stage 1. The MPE Stage 1 – RALP NBS has also been adapted for implementation for MPE Stage 1 – IMEX and MPE Stage 2.

The MPE NBS (based on MPE Stage 1 – RALP) recommended that nest boxes installed for the project should be monitored shortly after installation and then every six months thereafter. The MPW NBS did not provide any recommendations for nest box monitoring.

The first round of nest box monitoring on the Moorebank Precinct was completed by Arcadis in spring 2018. Arcadis has been engaged to undertake the second round of nest box monitoring on the

Moorebank Precinct in spring 2019 in accordance with the requirements specified in the MPE NBS. Table 1 below outlines the various conditions that detail the requirements for next boxes.

Table 1: Conditions of Consent

Conditions	Conditions of Consent Reference	Requirement	Where addressed
MPW Stage 1 (SSD 5066)			
Conditions of Consent	D21(d)(ii)	The identification of areas to be cleared and details of management measures to avoid residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat such as: - clearing procedures (including nest box plan)	MPW Stage 1 Construction Flora and Fauna Management Plan (CFFMP)
MPE Stage 1 (SSD 6766)			
Conditions of Consent	E34(d)(ii)(b)	The identification of areas to be cleared and details of management measures to avoid residual habitat damage or loss and to minimise or eliminate time lags between the removal and subsequent replacement of habitat such as: - clearing procedures (including nest box plan)	MPE Stage 1 CFFMP (RALP) MPE Stage 1 CFFMP (IMEX)
Final Compilation of Mitigation Measures	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.	MPE Stage 1 CFFMP (RALP) MPE Stage 1 CFFMP (IMEX)
MPE EPBC Approval			
Commonwealth Mitigation Measures	7.4.1.3 n	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.	MPE Stage 1 CFFMP (RALP) MPE Stage 1 CFFMP (IMEX) MPE Stage 2 CFFMP

This memo summarises the results of the second round of nest box monitoring undertaken by Arcadis Ecologists in November 2019.

Summary of spring 2018 nest box monitoring

A report was prepared by Arcadis for the Spring 2018 nest box monitoring (Arcadis 2019). The outcomes of the spring 2018 nest box monitoring report are summarised below.

Information regarding the total number of nest boxes installed across the Moorebank was consolidated prior to the first round of annual nest box monitoring in spring 2018. Based on prior information, it was believed that a maximum of 171 nest boxes had been installed; up to 121 in the Georges River Corridor, and 50 in the Bootland. During the first round of nest box monitoring by Arcadis in spring 2018 a total of 247 nest boxes were recorded; 195 in the Georges River Corridor and 52 in the Bootland.

The results of the first round of nest box monitoring in spring 2018 are summarised below:

- A total of 219 nest boxes (89%) were inspected by camera.
- A total of 38 nest boxes were occupied at the time of inspection; eight in the Bootland (15%) and 30 in the Georges River Corridor (15%).
- Of those occupied, eight of the 38 nest boxes (21%) contained introduced species.
- A total of six deceased fledgling birds were discovered in three nest boxes; two in the Bootland and one in the Georges River Corridor.
- A total of 22 nest boxes within the Georges River Corridor (11%) required maintenance. Two nest boxes located in the southern section of the Bootland also required maintenance as they were installed at a height above 10 m and recent bushfires may have affected their structure and stability.

Several issues were identified during the first round of nest box monitoring in 2018. These issues and recommendations to resolve them were outlined in the spring 2018 nest box monitoring report prepared by Arcadis in February 2019. A summary of issues and recommendations from the spring 2018 nest box monitoring are provided below.

Installation

Boxes were attached to trees using two methods; screwed directly into the trunk of the tree or hanging with a wire (‘habisure’ method). All nest boxes screwed directly into trees were mounted correctly and at a height that could easily be accessed using a pole-mounted camera.

Many of the boxes mounted using the habisure method were installed beyond the reach of pole mounted camera (i.e. greater than eight metres above the ground). As a result, the inside of these boxes could not be inspected using a pole-mounted camera. Many of these boxes had been mounted incorrectly and were hanging loose or at a severe angle, which also made inspection with a pole-mounted camera difficult.

The spring 2018 monitoring report recommended re-installing all boxes currently mounted above eight metres to a lower height to enable inspection with a pole-mounted camera. The spring 2018 report also recommended re-fitting all loose or otherwise poorly installed nest boxes correctly.

Design

Most nest boxes installed had been fitted with a hinged lid to enable inspection, however several boxes had been fitted with fixed lids, and the inside of these boxes could not be inspected using a pole-mounted camera. No recommendations were made to replace or retrofit these boxes, given the number of nest boxes installed already exceeds the requirements for the Moorebank projects

Fledgling bird fatalities were recorded in two of the larger nest boxes installed for the Moorebank projects. This was most likely due to the design of larger boxes with smooth sides that prevented smaller fledglings from climbing to the nest box entrances. Recommendations were made in the 2018 report to retrofit these boxes with an internal 'ladder' or similar to enable smaller birds to climb to the nest box entrances.

Introduced species

Two introduced fauna species were recorded occupying nest boxes in spring 2018. These were European Honey Bee (*Apis mellifera*) and Common Myna (*Acridotheres tristis*). The 2018 report did not recommend any immediate management actions, however management for these species was recommended if these were still recorded from the same boxes during spring 2019 monitoring.

Methodology

The second round of next box monitoring across both MPE and MPW was undertaken on the 1st, 3rd and 9th October 2019 by Arcadis Ecologists [redacted] using recommendations in the MPE NBS. All monitoring was undertaken during the day, between 8am and 4pm. Conditions were generally sunny and calm with no rainfall. A total of 253 nest boxes were located by Arcadis; 54 in the Bootland and 199 in the Georges River Corridor (Figure 1).

Each nest box located during spring 2019 was initially inspected from outside the box. Where possible and/or required, the inside of nest boxes was then inspected using a GoPro (Wi-Fi connected) camera attached to an 8 metre extension pole.

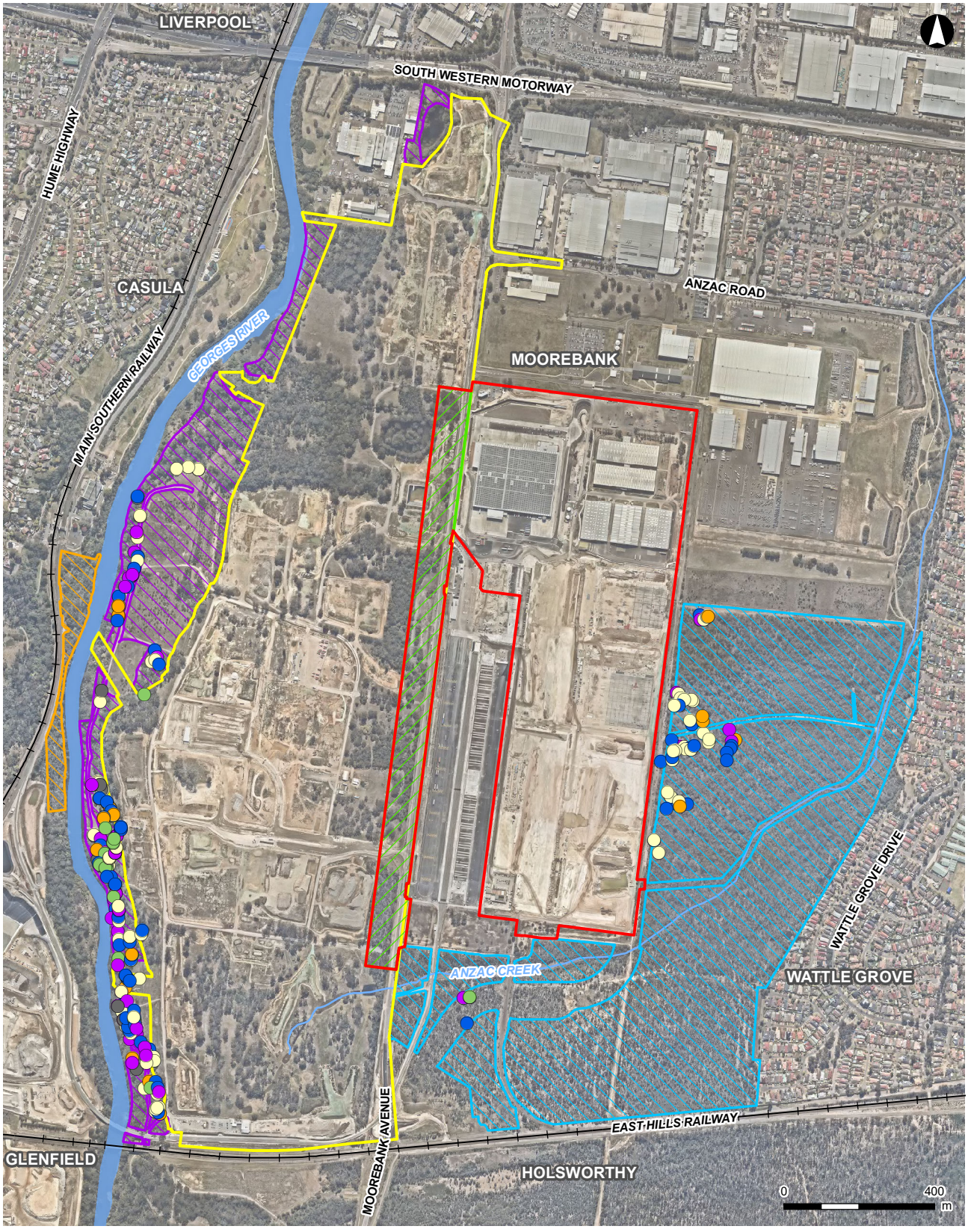
Nest boxes were numbered consecutively across the Moorebank Precinct during the first round of monitoring in spring 2018. This numbering has been kept consistent for the second round of nest box monitoring in spring 2019. Where new boxes were recorded, these were allocated numbers from 248 onwards to remain sequential with numbering from the spring 2018 monitoring.

The following information was collected, as recommended in Section 5 of the MPE NBS:

- Date and time.
- Nest box number.
- Nest box location (GPS).
- Occupancy status (including species level identification where possible).
- Evidence of previous occupancy by native fauna (such as nesting material, eggs, deceased fauna or feathers).
- Presence or evidence of previous introduced species occupation.
- General condition of the nest box and mount.
- Any recommended maintenance requirements, such as:
  - The need to remove introduced species.
  - Replacement, repair or re-installation of missing, fallen or damaged nest boxes or mounts.
  - Removal of excessive nesting material.
  - Moving nest boxes that are not functioning correctly.
  - Checking that boxes are draining adequately.
- Additional notes such as changes to land use or reasons for low occupancy.

For ease of comparison reporting for the spring 2019 monitoring has been kept generally consistent with the structure and information provided in the spring 2018 monitoring report. Additions or revisions in this report include:

- Revisions to nest box types – based on a more comprehensive review of available resources (e.g. catalogues, websites) from nest box providers.
- A comparison of results from the spring 2019 monitoring to those from the spring 2018 monitoring (Arcadis 2019). This comparison is provided to measure changes over time, and to provide data to determine the success of the nest box program.



LEGEND

- MPE Stage 2 construction area
- Moorebank Avenue site
- MPW Stage 2 construction area
- Casula offset site (Hourglass)
- Moorebank offset site (Georges River)
- Wattle Grove offset site (Bootland)
- Watercourse
- Existing railway

Nest box status

- Currently occupied (spring 2019)
- Previously occupied (spring 2018)
- Evidence of use
- Empty
- Not inspected
- Dysfunctional

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Coordinate System: GDA 1994 MGA Zone 56
Aerial imagery supplied by nearmap (Sep, 2019)

1:15,000 at A4

ARCADIS

SIMTA

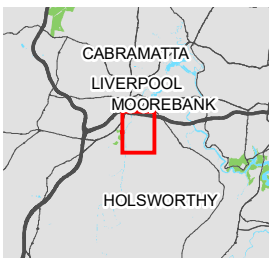


Figure 1: Nest Box locations and occupancy

Results

Detailed results from the spring 2019 nest box monitoring are provided in Appendix A (Bootland) and Appendix B (Georges River Corridor). The results of the spring 2019 monitoring are summarised below.

A total of 253 nest boxes were located by Arcadis during the spring 2019 monitoring surveys; 54 in the Bootland and 199 in the Georges River Corridor. This includes two additional boxes in the Bootland and four additional boxes in the Georges River Corridor that were not recorded during monitoring surveys in spring 2018.

A total of 200 nest boxes were inspected internally using a pole-mounted camera. The remaining 53 nest boxes were not inspected internally for the following reasons:

- 16 boxes were recorded as occupied by fauna during external inspections. Internal inspections were not undertaken to avoid further disturbance to fauna occupying these boxes.
- 10 boxes were installed too high (i.e. greater than 10 metres above the ground) and could not be reached with a pole-mounted camera.
- 11 boxes were not fitted with hinged lids and could not be accessed with a pole-mounted camera.
- 16 boxes were fallen, severely damaged or installed incorrectly. These boxes were identified as 'dysfunctional' nest boxes (e.g. boxes installed upside down or with lids completely open).

Nest box occupancy

Nest box 'occupancy' was determined based on the number of nest boxes recorded as currently occupied by native fauna. Comparisons of occupancy can be made between different monitoring periods, given the occurrence of live animals is independent during each monitoring period.

Nest box occupancy recorded during spring 2019 monitoring is summarised as follows:

- A total of 36 nest boxes were occupied by native fauna at the time of inspection; five in the Bootland and 31 in the Georges River Corridor.
- A total of five nest boxes were occupied by introduced fauna at the time of inspection; one in the Bootland and four in the Georges River Corridor.
- No recently (i.e. within the period since the spring 2018 monitoring) deceased fauna were recorded from any of the nest boxes inspected.

A comparison of nest box occupancy by native fauna between spring 2018 and spring 2019 is provided below:

- 9% of nest boxes within the Bootland were occupied by native fauna in spring 2019. This equates to an increase of 3% compared to spring 2018 (6%).
- 16% of nest boxes within the Georges River Corridor were occupied by native fauna in spring 2019. This equates to an increase of 4% compared to spring 2018 (12%).

Nest box utilisation

Nest box 'utilisation' includes boxes currently or previously occupied by native fauna as well as those showing evidence of use such as deceased animals, eggs and nesting materials. Comparisons of utilisation cannot readily be made between monitoring periods, given some evidence of previous occupation may still be present over multiple monitoring periods. Combining current and previous occupancy with evidence of use does provide a cumulative measure of nest box utilisation over time.

Combined, a total of 120 nest boxes were currently (spring 2019) or previously (spring 2018) occupied by native fauna, or showed evidence of occupancy by native fauna. This equates to a cumulative utilisation by native fauna of 47% of all nest boxes to date.

Introduced species

Five nest boxes (one in the southern Bootland and four in the Georges River Corridor) were occupied by European Honey Bees during the spring 2019 monitoring. No other introduced species were recorded, however evidence of previous nesting by Common Myna was recorded from three boxes (one in the Bootland and two in the Georges River Corridor).

A comparison of nest box occupancy by European Honey Bees between spring 2018 and spring 2019 is provided below:

- 2% of nest boxes within the Bootland were occupied by European Honey Bees in spring 2019. This equates to a decrease of 2% compared to spring 2018 (4%). No European Honey Bees were recorded within the Bootland occupying the same nest box over two consecutive years. One nest box within the Bootland (Box no. 25) was occupied by European Honey Bees in spring 2018, and by native fauna (Sugar Glider) in spring 2019.
- 2% of nest boxes within the Georges River Corridor were occupied by European Honey Bees in spring 2019. This equates to no net change compared to spring 2018 (2%). European Honey Bees were recorded within the Georges River Corridor occupying the same nest box over two consecutive years at only one nest box (Box no. 227). No native fauna were recorded within the Georges River Corridor in spring 2019 occupying nest boxes previously occupied by European Honey Bees in spring 2018.

No nesting Common Mynas were recorded during the spring 2019 monitoring. No comparison of data is provided, given Common Mynas may not have commenced nesting during the spring 2019 monitoring period.

Nest box condition

Nest box 'condition' includes the structural condition of boxes as well as box mounts.

The majority of nest boxes located during the spring 2019 monitoring surveys showed little evidence of deterioration due to weathering (e.g. plywood separation).

Sixteen nest boxes (2 boxes in the Bootlands and 14 boxes in the Georges River Corridor) were considered to be 'dysfunctional' for the following reasons:

- Five boxes fallen from trees (all within the Georges River Corridor).
- Three boxes damaged or destroyed by fire (two boxes in the Bootlands and 1 box in the Georges River Corridor).
- Seven boxes mounted incorrectly (e.g. upside down, lids open or missing) (all within the Georges River Corridor).

According to Section 5 of the MPE NBS, nest boxes must be installed at a height below 10 metres (m) to allow for visual inspection using an inspection camera and extension pole. A total of 17 nest boxes in the Georges River Corridor, and one nest boxes in the southern section of the Bootland, were installed at a height above 10 m and could not be reached using a pole-mounted camera.

In addition, 11 Microbat boxes in the Georges River Corridor were designed without a hinged lid and were unable to be opened and inspected at the time of monitoring.

Fledgling fatalities

During nest box monitoring in spring 2018, Arcadis Ecologists discovered deceased fledgling birds within two nest boxes in the Bootland and one nest box in the Georges River Corridor. Remains of these dead birds were recorded during spring 2019, however no recently (i.e. since spring 2018) deceased fledglings were recorded in spring 2019.

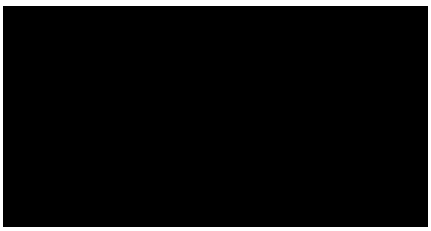
Management and maintenance

No management or maintenance of nest boxes in either the Bootland or the Georges River Corridor are currently considered necessary. A summary of justification for 'no action required' is provided below:

- Nest box occupancy and utilisation by native fauna are considered to be adequate in both the Bootland and the Georges River Corridor. This is based on the assumption that 10% of nest boxes should be occupied by target (native) fauna (Goldingay et al. 2018, Lindenmayer et al. 2017). A comparison between spring 2018 and spring 2019 results indicates that occupancy by native fauna has increased between these two periods.
- Occupancy by introduced species is considered 'low' in both the Bootland and the Georges River Corridor. Results of the spring 2019 monitoring indicate that occupancy by introduced species has reduced (Bootland) or remained stable (Georges River Corridor).
- The two dysfunctional boxes in the Bootland represent a negligible portion (4%) of the total nest boxes present.
- A total of 14 dysfunctional boxes in the Georges River Corridor represent a small portion (7%) of the total nest boxes present. Further, the total number of boxes installed in the Georges River Corridor is already considered to be higher than required or recommended to be installed in this area.
- No new fledgling fatalities were recorded during spring 2019 monitoring.
- Nest boxes mounted too high (i.e. > 10 metres) or with fixed lids cannot be inspected internally using a pole-mounted camera, however external inspections indicate that these remain 'functional' for native fauna.

In accordance with the MPE NBS, nest boxes are required to be monitored every 12 months after installation. As such, it is advised that the third round of nest box monitoring is undertaken in spring 2020. Included below are several recommendations that should be implemented prior to this next monitoring period.

Yours sincerely,



Appendix A Results of spring 2019 nest box monitoring - Bootland

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
1	Microbat	03/10/2019	None	None	None	None	Empty	None
2	Owlet-nightjar	03/10/2019	None	None	Leaf nest	None	Evidence	None
3	Possum/ small parrot	03/10/2019	None	None	None	None	Empty	None
4	Possum/ small parrot	03/10/2019	None	None	Chewed leaves lining bottom	None	Evidence	None
5	Owlet-nightjar	03/10/2019	None	None	Leaf nest	None	Evidence	None
6	Microbat	03/10/2019	None	None	None	None	Empty	None
7	Microbat	03/10/2019	None	None	None	None	Empty	None
8	Cockatoo	03/10/2019	None	None	Deceased birds	None	Evidence	None
9	Treecreeper	03/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
10	Possum/ small parrot	03/10/2019	None	None	Old leaves	None	Evidence	None
11	Microbat	03/10/2019	None	None	None	None	Empty	None
12	Microbat	03/10/2019	None	None	None	None	Empty	None
13	Glider	03/10/2019	Sugar Glider	None	None	None	Currently occupied	None
14	Cockatoo	03/10/2019	None	None	Deceased birds	None	Evidence	None
15	Owlet-nightjar	03/10/2019	None	None	None	None	Empty	None
16	Microbat	03/10/2019	None	None	None	None	Empty	None
17	Possum/ small parrot	03/10/2019	None	None	Leaf nest	None	Evidence	None
18	Microbat	03/10/2019	None	None	None	None	Empty	None
19	Lorikeet	03/10/2019	None	None	Old leaf nest	None	Evidence	None
20	Microbat	03/10/2019	None	None	None	None	Empty	None
21	Microbat	03/10/2019	None	None	None	None	Empty	None
22	Microbat	03/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
23	Glider	03/10/2019	Sugar Glider	None	None	None	Currently occupied	None
24	Cockatoo	03/10/2019	None	Sugar Glider	Leaf nest with some feathers present	None	Previously occupied	None
25	Glider	03/10/2019	Sugar Glider	None	None	None (spring 2019) European Honey Bee (spring 2018)	Currently occupied	None
26	Possum/ small parrot	03/10/2019	None	None	Leaf nest	None	Evidence	None
27	Possum/small parrot	03/10/2019	None	None	Leaf nest with some feathers	None	Evidence	None
28	Cockatoo	03/10/2019	None	None	Feathers	None	Evidence	None
29	Possum/ small parrot	03/10/2019	None	None	Leaf nest	None	Evidence	None
30	Glider	03/10/2019	None	None	None	None (spring 2019) European Honey Bee (spring 2018)	Previously occupied	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
31	Possum/ small parrot	03/10/2019	None	Sugar Glider	Leaf nest	None	Previously occupied	None
32	Owlet-nightjar	03/10/2019	None	None	None	None	Empty	None
33	Possum/ small parrot	03/10/2019	None	None	One white egg	None	Evidence	None
34	Glider	03/10/2019	None	None	None	None	Evidence	None
35	Glider	03/10/2019	Sugar Glider	None	None	None	Currently occupied	None
36	Microbat	03/10/2019	None	None	None	None	Empty	None
37	Microbat	03/10/2019	None	None	None	None	Empty	None
38	Owlet-nightjar	03/10/2019	None	None	Common Myna nesting material	None (spring 2019) Common Myna (spring 2018)	Previously occupied	None
39	Glider	03/10/2019	Sugar Glider	None	None	None	Currently occupied	None
40	Microbat	03/10/2019	None	None	None	None	Empty	None
41	Microbat	03/10/2019	None	None	None	None	Empty	None
42	Glider	03/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
43	Microbat	03/10/2019	None	None	None	None	Empty	None
44	Owlet-nightjar	03/10/2019	None	None	None	None	Empty	None
45	Possum/ small parrot	03/10/2019	None	None	One white egg and leaf nest	None	Evidence	None
46	Owlet-nightjar	03/10/2019	None	None	None	None	Empty	None
47	Owlet-nightjar	03/10/2019	None	None	Leaf nest	None	Evidence	None
48	Possum/ small parrot	03/10/2019	None	Sugar Glider	Leaf nest	None	Previously occupied	None
49	Microbat	03/10/2019	None	None	None	None	Empty	None
50	Owlet-nightjar	03/10/2019	None	None	Grass in bottom	None	Evidence	None
246	Cockatoo	03/10/2019	None	None	None	European Honey Bee	Currently occupied	None
247	Ringtail Possum	03/10/2019	None	None	None	None	Evidence	None
248	N/A	03/10/2019	None	None	None	None	Dysfunctional	None
249	N/A	03/10/2019	None	None	None	None	Dysfunctional	None

Appendix B Results of spring 2019 nest box monitoring - Georges River Corridor

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
51	Microbat	01/10/2019	None	None	None	None	Empty	None
52	Small parrot	01/10/2019	None	None	None	None	Empty	None
53	Small parrot	01/10/2019	None	None	None	None	Empty	None
54	Brushtail Possum	01/10/2019	None	None	None	None	Empty	None
55	Brushtail Possum	01/10/2019	None	None	Grass	None	Evidence	None
56	Glider	01/10/2019	None	None	None	None	Empty	None
57	Microbat	01/10/2019	None	None	None	None	Empty	None
58	Glider	01/10/2019	None	None	None	None	Empty	None
59	Microbat	01/10/2019	None	None	None	None	Empty	None
60	Glider	01/10/2019	Sugar Glider	None	None	None	Currently occupied	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
61	Microbat	01/10/2019	None	None	None	None	Empty	None
62	Brushtail Possum	01/10/2019	Rainbow Lorikeet	Common Ringtail Possum	None	None	Currently occupied	None
63	Glider	01/10/2019	None	None	None	None	Empty	None
64	Brushtail Possum	01/10/2019	None	None	leaf litter	None	Evidence	None
65	Small parrot	01/10/2019	None	None	None	None	Empty	None
66	Brushtail Possum	01/10/2019	None	None	sticks	None	Evidence	None
67	Glider	01/10/2019	None	None	Leaf litter	None	Evidence	None
68	Microbat	01/10/2019	None	None	None	None	Dysfunctional	None
69	Microbat	01/10/2019	None	None	None	None	Empty	None
70	Small parrot	01/10/2019	Common Ringtail Possum	None	None	None	Currently occupied	None
71	Cockatoo	01/10/2019	None	None	None	None	Empty	None
72	Brushtail Possum	01/10/2019	Common Ringtail Possum	Common Ringtail Possum	None	None	Currently occupied	None
73	Glider	01/10/2019	None	None	Leaf nest	None	Evidence	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
74	Small parrot	01/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
75	Microbat	01/10/2019	None	None	None	None	Empty	None
76	Glider	01/10/2019	None	None	Leaf litter nest	None	Evidence	None
77	Small parrot	01/10/2019	Common Ringtail Possum	Common Ringtail Possum	None	None	Currently occupied	None
78	Glider	01/10/2019	None	Sugar Glider	None	None	Previously occupied	None
79	Small parrot	01/10/2019	None	Common Ringtail Possum	leaf litter nest	None	Previously occupied	None
80	Microbat	01/10/2019	None	None	None	None	Empty	None
81	Microbat	01/10/2019	None	Gould's Long-eared Bat	None	None	Previously occupied	None
82	Microbat	01/10/2019	None	None	None	None	Empty	None
83	Small parrot	01/10/2019	None	Common Ringtail Possum	None	None	Previously occupied	None
84	Glider	01/10/2019	None	None	Old stick nest	None	Evidence	None
85	Glider	01/10/2019	None	None	Leaf litter nest	None	Evidence	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
86	Possum/small parrot	01/10/2019	Rainbow Lorikeet	Eastern Rosella	None	None	Currently occupied	None
87	Kookaburra	01/10/2019	None	None	None	None	Empty	None
88	Possum/small parrot	01/10/2019	None	None	Grass	None	Evidence	None
89	Possum/small parrot	01/10/2019	None	None	Leaf litter	None	Empty	None
90	Glider	01/10/2019	None	None	None	None	Dysfunctional	None
91	Microbat	01/10/2019	None	None	None	None	Empty	None
92	Glider	01/10/2019	None	None	None	None	Empty	None
93	Brushtail Possum	01/10/2019	None	None	None	None	Empty	None
94	Brushtail Possum	01/10/2019	None	None	None	None	Empty	None
95	Microbat	01/10/2019	None	None	None	None	Empty	None
96	Small parrot	01/10/2019	None	None	None	None	Empty	None
97	Cockatoo	01/10/2019	Southern Boobook Owl	None	None	None	Currently occupied	None
98	Glider	01/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
99	Brushtail Possum	01/10/2019	None	None	None	None	Empty	None
100	Boobook	01/10/2019	None	None	None	None	Empty	None
101	Microbat	01/10/2019	None	None	None	None	Empty	None
102	Microbat	01/10/2019	None	None	None	None	Empty	None
103	Glider	01/10/2019	None	None	Leaf litter	None	Evidence	None
104	Brushtail Possum	01/10/2019	None	None	None	None	Empty	None
105	Glider	01/10/2019	None	None	Leaf litter	None	Evidence	None
106	Brushtail Possum	01/10/2019	None	Southern Boobook	None	None	Previously occupied	None
107	Microbat	01/10/2019	None	None	None	None	Empty	None
108	Small parrot	01/10/2019	None	None	None	None	Empty	None
109	Cockatoo	01/10/2019	None	Galah	None	None	Previously occupied	None
110	Glider	01/10/2019	None	None	Feathers	None	Evidence	None
111	Microbat	01/10/2019	None	None	None	None	Empty	None
112	Boobook	01/10/2019	None	None	None	None	Dysfunctional	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
113	Microbat	01/10/2019	None	None	None	None	Empty	None
114	Glider	01/10/2019	None	None	None	None	Empty	None
115	Brushtail Possum	01/10/2019	None	None	Feathers leaves rubbish old nest.	None (spring 2019) Common Myna (spring 2018)	Previously occupied	None
116	Small parrot	01/10/2019	None	None	Leaves and feathers	None (spring 2019) but evidence of likely Common Myna nesting	Evidence	None
117	Small parrot	01/10/2019	None	Rainbow Lorikeet	None	None	Previously occupied	None
118	Small parrot	01/10/2019	None	None	None	None	Dysfunctional	None
119	Microbat	01/10/2019	None	None	None	None	Empty	None
120	Small parrot	01/10/2019	None	None	None	None	Empty	None
121	Small parrot	01/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
122	Glider	01/10/2019	None	None	Some leaves	None	Evidence	None
123	Small parrot	01/10/2019	None	Rainbow Lorikeet	Two white eggs	None	Previously occupied	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
124	Glider	01/10/2019	Sugar Glider	None	None	None	Currently occupied	None
125	Small parrot	01/10/2019	None	None	None	None	Dysfunctional	None
126	Brushtail Possum	01/10/2019	None	None	Two white eggs.	None	Evidence	None
127	Microbat	01/10/2019	None	None	None	None	Empty	None
128	Cockatoo	01/10/2019	None	None	None	None	Dysfunctional	None
129	Microbat	01/10/2019	None	None	None	None	Empty	None
130	Small parrot	01/10/2019	None	None	None	None	Empty	None
131	Brushtail Possum	01/10/2019	None	None	None	None	Dysfunctional	None
132	Small parrot	01/10/2019	None	None	None	None	Dysfunctional	None
133	Boobook	01/10/2019	None	None	Deceased birds	None	Evidence	None
134	Small parrot	01/10/2019	None	None	Leaf litter	None	Evidence	None
135	Small parrot	01/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
136	Microbat	01/10/2019	None	None	None	None	Dysfunctional	None
137	Microbat	01/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
138	Glider	01/10/2019	None	None	None	None	Evidence	None
139	Brushtail Possum	01/10/2019	Common Ringtail Possum	Common Ringtail Possum	None	None	Currently occupied	None
140	Glider	01/10/2019	None	None	None	European Honey Bee	Currently occupied	None
141	Microbat	01/10/2019	None	None	None	None	Empty	None
142	Small parrot	01/10/2019	None	None	Some feathers	None	Evidence	None
143	Brushtail Possum	01/10/2019	None	None	None	None	Dysfunctional	None
144	Small parrot	01/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
145	Brushtail Possum	03/10/2019	None	None	None	None	Empty	None
146	Glider	03/10/2019	None	None	grass	None	Evidence	None
147	Small parrot	03/10/2019	None	None	dirt	None	Evidence	None
148	Cockatoo	03/10/2019	None	None	None	None	Empty	None
149	Brushtail Possum	03/10/2019	None	None	None	None	Empty	None
150	Small parrot	03/10/2019	None	None	Probable Common Myna nest	None (spring 2019) but evidence of	Evidence	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
						likely Common Myna nesting		
151	Glider	03/10/2019	None	None	Grass and feathers	None	Evidence	None
152	Small parrot	03/10/2019	None	Common Ringtail Possum	Leaves, grass and feather	None	Previously occupied	None
153	Brushtail Possum	03/10/2019	None	None	grass and feathers	None	Evidence	None
154	Glider	03/10/2019	None	None	None	None	Empty	None
155	Small parrot	03/10/2019	None	None	None	None	Empty	None
156	Cockatoo	03/10/2019	None	None	None	None	Empty	None
157	Boobook	03/10/2019	None	None	Two white eggs	None	Evidence	None
158	Microbat	03/10/2019	None	None	None	None	Empty	None
159	Glider	03/10/2019	None	None	leaves and feathers	None	Evidence	None
160	Glider	03/10/2019	Sugar Glider	None	None	None	Currently occupied	None
161	Small parrot	03/10/2019	Common Ringtail Possum	Common Ringtail Possum	None	None	Currently occupied	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
162	Small parrot	03/10/2019	None	None	None	None	Empty	None
163	Small parrot	03/10/2019	Common Ringtail Possum	None	None	None	Currently occupied	None
164	Boobook	03/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
165	Brushtail Possum	03/10/2019	None	None	Some leaves	None	Evidence	None
166	Small parrot	03/10/2019	None	None	leaves, feathers and rubbish	None (spring 2019) but evidence of likely Common Myna nesting	Evidence	None
167	Small parrot	03/10/2019	None	None	None	None	Empty	None
168	Boobook	03/10/2019	None	None	None	None	Empty	None
169	Small parrot	03/10/2019	None	None	None	None	Empty	None
170	Cockatoo	03/10/2019	None	None	None	None	Empty	None
171	Microbat	03/10/2019	None	None	None	None	Empty	None
172	Brushtail Possum	03/10/2019	None	None	Some grass and sticks	None	Evidence	None
173	Small parrot	03/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
174	Microbat	03/10/2019	None	None	None	None	Empty	None
175	Glider	03/10/2019	None	None	None	None	Empty	None
176	Glider	03/10/2019	None	None	Leaf litter	None	Evidence	None
177	Small parrot	03/10/2019	None	None	None	None	Empty	None
178	Cockatoo	03/10/2019	None	None	None	None	Dysfunctional	None
179	Small parrot	03/10/2019	None	None	None	None	Dysfunctional	None
180	Small parrot	03/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
181	Cockatoo	03/10/2019	Sulphur-crested Cockatoo	None	None	None	Currently occupied	None
182	Small parrot	03/10/2019	None	None	Two white eggs	None	Evidence	None
183	Cockatoo	03/10/2019	None	None	Leaf litter nest	None	Evidence	None
184	Brushtail Possum	03/10/2019	None	None	Mixed nest material, likely Common Myna	None (spring 2019) but evidence of likely Common Myna nesting	Evidence	None
185	Glider	09/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
186	Small parrot	09/10/2019	Rainbow Lorikeet	None	None	None	Currently occupied	None
187	Glider	09/10/2019	None	None	None	None (spring 2019) European Honey Bee (spring 2018)	Previously occupied	None
188	Small parrot	09/10/2019	None	None	None	None	Empty	None
189	Small parrot	09/10/2019	Common Ringtail Possum	None	None	None	Currently occupied	None
190	Glider	09/10/2019	Sugar Glider	None	None	None	Currently occupied	None
191	Brushtail Possum	09/10/2019	None	None	Sticks and plastic	None (spring 2019) but evidence of likely Common Myna nesting	Evidence	None
192	Small parrot	09/10/2019	Rainbow Lorikeet	Rainbow Lorikeet	None	None	Currently occupied	None
193	Cockatoo	09/10/2019	None	None	None	None	Empty	None
194	Microbat	09/10/2019	None	None	None	None	Empty	None
195	Small parrot	09/10/2019	None	Common Ringtail Possum	None	None	Previously occupied	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
196	Glider	09/10/2019	Sugar Glider	Sugar Glider	None	None	Currently occupied	None
197	Small parrot	09/10/2019	None	None	None	None	Empty	None
198	Small parrot	09/10/2019	None	None	None	None	Empty	None
199	Small parrot	09/10/2019	Common Ringtail Possum	None	None	None	Currently occupied	None
200	Small parrot	09/10/2019	None	Australian Owlet-nightjar	None	None	Previously occupied	None
201	Glider	09/10/2019	None	Sugar Glider	None	European Honey Bee	Currently occupied	None
202	Ringtail possum	09/10/2019	None	None	None	None	Empty	None
203	Microbat	09/10/2019	None	None	None	None	Dysfunctional	None
204	Ringtail possum	09/10/2019	None	Australian Owlet-nightjar	None	None	Previously occupied	None
205	Microbat	09/10/2019	None	None	None	None	Empty	None
206	Small parrot	09/10/2019	None	None	None	None	Empty	None
207	Glider	09/10/2019	None	None	None	None	Empty	None
208	Glider	09/10/2019	None	None	None	None	Evidence	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
209	Microbat	09/10/2019	None	None	None	None	Empty	None
210	Small parrot	09/10/2019	Common Ringtail Possum	None	None	None	Currently occupied	None
211	Small parrot	09/10/2019	None	None	None	None	Evidence	None
212	Small parrot	09/10/2019	None	None	None	None	Empty	None
213	Glider	09/10/2019	None	None	None	None	Evidence	None
214	Small parrot	09/10/2019	None	None	Grass or chewed leaves	None	Evidence	None
215	Brushtail Possum	09/10/2019	Common Ringtail Possum	None	None	None	Currently occupied	None
216	Brushtail Possum	09/10/2019	None	None	Grass	None	Evidence	None
217	Glider	09/10/2019	None	None	None	None (spring 2019) European Honey Bee (spring 2018)	Dysfunctional	None
218	Microbat	09/10/2019	None	None	None	None	Empty	None
219	Small parrot	09/10/2019	None	None	None	None	Evidence	None
220	Small parrot	09/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
221	Glider	09/10/2019	None	None	None	European Honey Bee	Currently occupied	None
222	Glider	09/10/2019	None	None	Leaf litter	None	Evidence	None
223	Small parrot	09/10/2019	Australian Owlet-nightjar	None	None	None	Currently occupied	None
224	Small parrot	09/10/2019	Australian Owlet-nightjar	Australian Owlet-nightjar	None	None	Currently occupied	None
225	Glider	09/10/2019	None	None	leaf litter	None	Evidence	None
226	Small parrot	09/10/2019	None	None	None	None	Empty	None
227	Glider	09/10/2019	None	None	None	European Honey Bee (spring 2019 and spring 2018)	Currently occupied	None
228	Microbat	09/10/2019	None	None	None	None	Empty	None
229	Small parrot	09/10/2019	None	None	None	None	Empty	None
230	Microbat	09/10/2019	None	None	None	None	Empty	None
231	Small parrot	09/10/2019	None	None	None	None	Empty	None
232	Small parrot	09/10/2019	None	None	None	None	Evidence	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
233	Glider	09/10/2019	None	None	None	None	Evidence	None
234	Ringtail possum	09/10/2019	None	Australian Owlet-nightjar	None	None	Previously occupied	None
235	Microbat	09/10/2019	None	None	None	None	Empty	None
236	Small parrot	09/10/2019	Australian Owlet-nightjar	None	None	None	Currently occupied	None
237	Glider	09/10/2019	None	None	None	None	Empty	None
238	Small parrot	09/10/2019	None	None	None	None	Empty	None
239	Boobook	09/10/2019	None	Australian Wood Duck	None	None	Previously occupied	None
240	Small parrot	09/10/2019	None	None	None	None	Evidence	None
241	Ringtail possum	09/10/2019	None	None	None	None	Empty	None
242	Microbat	09/10/2019	None	None	None	None	Empty	None
243	Glider	09/10/2019	None	None	None	None	Empty	None
244	Small parrot	09/10/2019	None	None	None	None	Empty	None
245	Microbat	09/10/2019	None	None	None	None	Empty	None

Nest Box No.	Type	Date	Currently occupied (native fauna) (spring 2019)	Previously occupied (native fauna) (spring 2018)	Evidence of use	Introduced species	Status (spring 2019)	Action required
250	Small parrot	01/10/2019	None	None	None	None	Empty	None
251	Small parrot	01/10/2019	None	None	Leaf litter	None	Evidence	None
252	Cockatoo	01/10/2019	None	None	Deceased animal	None	Evidence	None
253	Brushtail Possum	09/10/2019	None	None	None	None	Empty	None

APPENDIX F – EVIDENCE OF CONSULTATION

MPWS2 Construction Flora and Fauna Management Plan (Revision E dated 24 September 2019)

Status of comments from OEH/EES

Stakeholder	Initial Comment Date	Screenshot of typo and/or other issues	Arcadis Response	Initial Response Date	Reviewer Comment on Response	Date Comment Closed
OEH/EES	25/11/19	Define “Bootland” under Acronyms and Definitions	Acronyms and Definitions updated to include Bootland.	02/12/2019	Closed	13/12/19
OEH/EES	25/11/19	Change reference from ‘this plan to the “CFFMP’ throughout the document.	Updated reference from “this plan” to “this CFFMP” throughout the document	02/12/2019	Closed	13/12/19
OEH/EES	25/11/19	Section 1.2 - Requests that the same note be include in the CFFMP for MPE Stage 2 (unrelated to this document – just a request from EES)	Noted.	02/12/2019	Closed	13/12/19
OEH/EES	25/11/19	Table 1-1 reference to hectares of native vegetation to be cleared. Clarify whether this includes Moorebank Avenue or not.	Yes, this does include Moorebank Avenue as identified in CoC B157 and Table 3-5: Plant Community Types occurring in the Project Site	02/12/2019	Closed	13/12/19

[redacted]

From: [redacted]@environment.nsw.gov.au>
Sent: Monday, 20 January 2020 2:54 PM
To: [redacted]
Cc: [redacted]
Subject: FW: Moorebank Logistics Park - MPWS2 - KMP Consultation
Attachments: RE: Moorebank Logistics Park - MPWS2 - CFFMP Consultation ; Report 18194RP1_20191205.pdf

Hi [redacted]

As discussed, below is the email exchange with Tactical on the KMP (which includes EES Group comments on version 1). Tactical's response is in appendix C of the attached version 2 of the KMP (see pages 68-85). As advised to Tactical below, we will provide advice on their response to our comments as addressed in version 2 by the end of this month.

Also attached is the email exchange on the CFFMP. All EES Group comments on the CFFMP have been satisfactorily addressed.

Regards

[redacted]
Senior Conservation Planning Officer, Greater Sydney

Please note, I work part-time. I do not work on Tuesday and Wednesday.

Climate Change and Sustainability | Department of Planning, Industry and Environment
[redacted]
Level 2, 10 Valentine Avenue, Parramatta, NSW 2150
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

Tracy Davey

From: [redacted]@tacticalgroup.com.au>
Sent: Friday, 13 December 2019 12:06 PM
To: [redacted]
Cc:
Subject: RE: Moorebank Logistics Park - MPWS2 - CFFMP Consultation
Attachments: MPW Stage 2 CFFMP_Rev_G_clean.pdf

Hi [redacted]

Thanks for your response on this. We've included your final comments to the MPWS2 CFFMP and will now close out this consultation with OEH/EES on this plan. Please find the attached updated MPWS2 CFFMP for your information.

We look forward to continue working on the KMP.

Regards,

[redacted]
ENVIRONMENTAL MANAGER

TACTICAL GROUP

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

[redacted]
E [redacted]@tacticalgroup.com.au
W www.tacticalgroup.com.au

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From: [redacted]@environment.nsw.gov.au>
Sent: Friday, 13 December 2019 11:20 AM
To: [redacted]@tacticalgroup.com.au>
Subject: RE: Muoorebank Logistics Park - MPWS2 - CFFMP Consultation

Hi [redacted]

Some of our comments were not addressed – I've noted these in the attached. No issues with the comments that have been addressed.

Regards,

[redacted]
Senior Conservation Planning Officer, Greater Sydney

Climate Change and Sustainability | Department of Planning, Industry and Environment
T [redacted] | E [redacted]@environment.nsw.gov.au
Level 2, 10 Valentine Avenue, Parramatta, NSW 2150
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: [redacted]@tacticalgroup.com.au>
Sent: Tuesday, 3 December 2019 10:00 AM
To: [redacted]@environment.nsw.gov.au>; [redacted]@environment.nsw.gov.au>
Cc: [redacted]@tacticalgroup.com.au>; [redacted]@tacticalgroup.com.au>
Subject: Moorebank Logistics Park - MPWS2 - CFFMP Consultation

Morning [redacted]

Hope you are well. I just tried to call you. We have now addressed the comments you provided to us on the MPWS2 CFFMP – please see attached the final version of the plan along with tracked changes of the CFFMP. Please also see attached a comments table detailing how and where each of your comments has been addressed.

Could you indicate your satisfaction with those changes by completing this table and forwarding back to us as soon as possible?

If you have queries do not hesitate to contact me directly.

Regards,

[redacted]
ENVIRONMENTAL MANAGER

TACTICAL GROUP

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

[redacted]
E [redacted]@tacticalgroup.com.au
W www.tacticalgroup.com.au

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Before printing this document, please consider the environment.

From: [redacted]@tacticalgroup.com.au>
Sent: Monday, 25 November 2019 11:04 AM
To: [redacted]@environment.nsw.gov.au>
Subject: Re: Moorebank Logistics Park - MPWS2 - KMP Consultation

Hi [redacted] thank you for the feedback we look forward to receiving your comments.

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From: [redacted]@environment.nsw.gov.au>
Sent: Monday, November 25, 2019 10:45:56 AM
To: [redacted]@tacticalgroup.com.au>
Subject: RE: Moorebank Logistics Park - MPWS2 - KMP Consultation

Thanks [redacted], I hope to get comments on the CFFMP to you by the end of this week.

Regards

[redacted]
Senior Conservation Planning Officer, Greater Sydney

Climate Change and Sustainability | Department of Planning, Industry and Environment
T 02 9995 6917 | E [redacted]@environment.nsw.gov.au
Level 2, 10 Valentine Avenue, Parramatta, NSW 2150
www.dpie.nsw.gov.au

NSW GOVERNMENT | Planning, Industry & Environment

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: [redacted]@tacticalgroup.com.au>
Sent: Friday, 22 November 2019 11:58 AM
To: [redacted]@environment.nsw.gov.au>
Cc: [redacted]@tacticalgroup.com.au>; [redacted]@environment.nsw.gov.au>
Subject: RE: Moorebank Logistics Park - MPWS2 - KMP Consultation

Morning [redacted]

Hope you are well. I contacted you on Wednesday the 20/1/2019 regarding EES comments pertaining to the Koala Management Plan. Just to advise, we are currently responding to all issues raised and will send a comprehensive response next week, week starting the 25th November 2019.

I am also following up on the Construction Fauna and Flora Management Plan ? Do you have any comments on this plan?

If you require any additional information please don't hesitate to contact me.
Regards,

[redacted]
ENVIRONMENTAL MANAGER
TACTICAL GROUP

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

[redacted]
E [redacted]@tacticalgroup.com.au
W www.tacticalgroup.com.au

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From: [redacted]@environment.nsw.gov.au>
Sent: Thursday, 14 November 2019 1:22 PM
To: [redacted]@tacticalgroup.com.au>
Subject: RE: Moorebank Logistics Park - MPWS2 - KMP Consultation

Sorry [redacted], also apologies for misspelling your name!

Regards,

[redacted]
Senior Conservation Planning Officer, Greater Sydney

Climate Change and Sustainability | Department of Planning, Industry and Environment
[redacted] | E richard.bonner@environment.nsw.gov.au
Level 2, 10 Valentine Avenue, Parramatta, NSW 2150
www.dpie.nsw.gov.au

NSW GOVERNMENT | Planning, Industry & Environment

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From: [redacted]@tacticalgroup.com.au>
Sent: Wednesday, 30 October 2019 11:06 AM
To: [redacted]@environment.nsw.gov.au>
Cc: [redacted]@tacticalgroup.com.au>; [redacted]@tacticalgroup.com.au>
Subject: RE: Moorebank Logistics Park - MPWS2 - KMP Consultation

Morning [redacted]

Hope you are well. I just tried to call you. I am following up on the Moorebank Logistics Park – MPWS2 CFFMP and KMP. Please let me know if you have any queries, clarifications etc. As mentioned previously we are willing to meet with yourselves if this assists.

I look forward to hearing from you.

Kind regards

[redacted]
ENVIRONMENTAL MANAGER
TACTICAL GROUP

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

[redacted]
W www.tacticalgroup.com.au

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From: [redacted]@environment.nsw.gov.au>
Sent: Tuesday, 22 October 2019 10:55 AM
To: [redacted]@tacticalgroup.com.au>
Cc: [redacted]@tacticalgroup.com.au>
Subject: RE: Moorebank Logistics Park - MPWS2 - KMP Consultation

Hello [redacted],

I have downloaded the draft CFFMP and KMP. The Environment, Energy and Science Group of the Department of Planning, Industry and Environment (formerly OEH) will provide comments on the draft MPs as soon as possible. Can you advise on the expected timeframe for IPC determination of the proposal?

Regards

[redacted]
Senior Conservation Planning Officer, Greater Sydney

Climate Change and Sustainability | Department of Planning, Industry and Environment
T [redacted] E [redacted]@environment.nsw.gov.au
Level 2, 10 Valentine Avenue, Parramatta, NSW 2150
www.dpie.nsw.gov.au

The Department of Planning, Industry and Environment acknowledges that it stands on Aboriginal land. We acknowledge the traditional custodians of the land and we show our respect for elders past, present and emerging through thoughtful and collaborative approaches to our work, seeking to demonstrate our ongoing commitment to providing places in which Aboriginal people are included socially, culturally and economically.

From: [redacted]@tacticalgroup.com.au>
Sent: Friday, 18 October 2019 4:06 PM
To: [redacted]@environment.nsw.gov.au>
Cc: INFOEnvironment <info@environment.nsw.gov.au>; [redacted]@tacticalgroup.com.au>; [redacted]@tacticalgroup.com.au>
Subject: RE: Moorebank Logistics Park - MPWS2 - KMP Consultation

Afternoon [redacted]

Hope you are well. I just tried to call you regarding my email below dated the 16 October 2019.
Please can you give me a return call on 0408 678 878 or reply by email to discuss.

Regards,
[redacted]
ENVIRONMENTAL MANAGER
TACTICAL GROUP

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

[redacted]
W www.tacticalgroup.com.au

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From: [redacted]
Sent: Wednesday, 16 October 2019 11:32 AM
To: [redacted]@environment.nsw.gov.au>
Cc: info@environment.nsw.gov.au; [redacted]@tacticalgroup.com.au>; [redacted]@tacticalgroup.com.au>
Subject: Moorebank Logistics Park - MPWS2 - KMP Consultation

Morning [redacted]

Hope you are well. I just tried to call you and have left a voice message. Further to our submission of the MPWS2 Construction Fauna and Flora Management Plan (CFFMP) last week, please find attached the Koala Management Plan (KMP). The two Management Plans relate to each and can be reviewed simultaneously.

As you may be aware the Moorebank Precinct West (MPW) Stage 2(SSD7709) is advancing towards commencing construction and we are currently addressing the recommended conditions from the Department of Planning Industry and Environment (DPIE) which are pending determination by the Independent Planning Commission (IPC). The recommended conditions of consent are attached for your reference along with the following link to the SSD Application via the DPIE website http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7709

We would like to take this opportunity to consult with OEH, and the following link provides the :

- Final KMP for review and comment in pdf and docx; and
- If required, comments table template where we would be seeking OEH provide any comments in relation to the KMP

https://www.dropbox.com/s/uiubc4dujngyy6d/MPWS2%20KMP%20151019-%20OEH%20Review.zip?dl=0

We would be pleased to meet with you in person and other representatives from OEH to present the key features of this document, if this would assist in an expeditious review from OEH. Please let us know if you'd like to meet and we would happily coordinate a suitable date/time.

Due to current time imperatives for the project we would be grateful if we could finalise OEH's review of the KMP by 4/11/2019.

Please let us know if there is any further information you may require when undertaking your review. I will try and call you again today to provide a briefing and context for the two submitted Management Plans.
Regards,

[redacted]
ENVIRONMENTAL MANAGER
TACTICAL GROUP

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

[redacted]
W www.tacticalgroup.com.au


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