

BUSH FIRE RISK MANAGEMENT PLAN

Moorebank Intermodal Precinct – West Precinct Stage 2

18 NOVEMBER 2024

MOOREBANK LOGISTICS PARK – WEST PRECINCT STAGE 2 AND STAGE 3

SSD 7709 and SSD 10431

Bush Fire Risk Management Plan

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Original Author Details

Original Author Details	Qualifications and Experience
<p>██████████ BlackAsh Bushfire Consulting</p>	<p>Graduate Diploma of Bush Fire Design University of Western Sydney BPAD Level 3 Accredited Practitioner Fire Protection Association of Australia ██████████ is a highly regarded expert in bushfire planning and design with over 20 years' experience in local government, the private sector and state government.</p>
<p>██████████ Arcadis Level 16/580 George Street Sydney NSW 2000</p>	<p>Bachelor of Environmental Science (Honours) ██████████ has 4 years of experience in environmental consulting which has included environmental and ecological planning assessment, post-approval consulting, environmental management plan preparation and condition of consent consistency review.</p>

MPW Stage 2/3 CEMP Author/ Reviewer Details

Author Details	Qualifications and Experience
<p>██████████ Aspect Environmental BEnvSc</p>	<p>1 year experience in environmental impact assessments, management plans and compliance reporting.</p>
<p>██████████ Aspect Environmental BEnvSc (Hons1), Grad Cert EnvPI</p>	<p>16 years of experience in environmental planning, assessment and management.</p>

REVISIONS

Revision	Date	Description	Prepared by	Approved by
A	15/10/2019	First draft based on Recommended Conditions of Consent	██████████	██████████
B	24/10/2019	Response to ER comments on Rev A	██████████	██████████
C	06/12/2019	Bushfire specialist professional review	██████████	██████████
D	18/02/2021	Updated under annual review	██████████	██████████
E	17/03/2021	Updated in response to approval of MPW Stage 2 MOD1	██████████	██████████
F	6/09/2022	Updated to reflect development branding and updated figures	██████████	██████████
G	18/11/2024	<p>Updated to reflect:</p> <ul style="list-style-type: none"> MPW 2 RfMA 030 – ancillary facility for construction works MPW 2 RfMA 031 – minor ancillary facility (Water Treatment Plant) 	██████████	██████████



- MPW 2 RfMA 032 – minor ancillary facility and addendum to include APZ area
 - Modification 3 to SSD 7709
 - MPW Stage 2 RfMA039 –Lot 5 Minor Ancillary Facility.
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KEY TERMS AND ACRONYMS

Acronym/Term	Meaning
Asset protection zone	A fuel-reduced area surrounding a built asset or structure which provides a buffer zone between between a bush fire hazard and buildings, which is managed progressively to minimise fuel loads and reduce the potential radiant heat levels, flame contact, ember and smoke attack on life and property.
APZ	Asset Protection Zone
BRMP	Bush Fire Risk Management Plan – this plan
Bush Fire Assessment Report	The Bush Fire Assessment Report provided in Appendix W of the MPW Stage 2 EIS (Australian Bushfire Protection Planners, 2016)
CEMP	Construction Environmental Management Plan
CERP	Construction Emergency Response Plan
CoC	Conditions of Consent
Conservation Area	The biodiversity conservation area between the Georges River and the western boundary of the Development Site. Fully contains the riparian corridor.
Contractor's CM	Contractor's Construction Manager
Contractor's WPEM	Contractor's Works Package Environmental Manager
Contractor's WPM	Contractor's Works Package Manager
Defendable Space	An area adjoining an asset that is managed to reduce combustible elements and is free from constructed impediments. It is a safe working environment in which active firefighting can be undertaken to defend the structure, before and after the passage of a bush fire.
Development, the	The 'amended construction area' and 'amended operational area' identified within the MPW Stage 2 RtS and approved under SSD 7709
DPHI	Department of Planning, Housing and Infrastructure (formerly DPIE)
DPIE	Department of Planning, Industry & Environment (formerly Department of Planning & Environment)
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 2017
EPBC REMM	Revised Environmental Management Measures presented in the Moorebank Intermodal Terminal (IMT) Final EIS
FCMM	Final Compilation of Mitigation Measures. These are the management and mitigation measures (2 November 2018) included in Appendix 2 of the SSD 7709 Consent.
Fuel load	The total amount of potential fuel for a fire in a given structure or area
GFA	Gross floor area

Acronym/Term	Meaning
IMEX	<p>Import Export Terminal. Includes the following key components:</p> <ul style="list-style-type: none"> • Truck processing, holding and loading areas - entrance and exit from Moorebank Avenue • Rail loading and container storage areas – installation of four rail sidings with adjacent container storage area serviced by manual handling equipment initially and overhead gantry cranes progressively • Administration facility and associated car parking- light vehicle access from Moorebank Avenue.
IMT	Intermodal Terminal
IMT facility	<p>The IMT facility includes the construction of the following key components together comprising the Intermodal Terminal:</p> <ul style="list-style-type: none"> • Truck processing and loading areas • Rail loading and container storage areas • Administration facility and associated car parking.
IPA	<p>Inner Protection Area, the IPA is the area closest to the asset (building) and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and be a defensible space. Vegetation within the IPA should be kept to a minimum level.</p>
LVMP	Landscape Vegetation Management Plan a sub-plan of the OEMP
MPW	Moorebank Precinct West
OEMP	Operational Environment Management Plan
PBP 2006	NSW Rural Fire Service’s Planning for Bush fire Protection (RFS, 2006)
Personnel	Construction Contractor and sub-contractor’s staff
POEO Act	Protection of the Environment Operations Act 1997
REMM	Revised Environmental Management Measures. These are the management and mitigation measures presented in the MPW Concept Plan (SSD 5066) Supplementary RtS (August 2017).
Riparian corridor	<p>Generally, a riparian corridor relates to the land directly adjacent to a watercourse. CoC B2 specifies that the riparian corridor addressed in this document is comprised of:</p> <ul style="list-style-type: none"> (i) a buffer zone to the most inland of: <ul style="list-style-type: none"> • 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 meters extension to the buffer zone established in (i) above, where native vegetation is located on or within 10 metres east of the buffer. <p>The riparian corridor is depicted in Figure 3-3 as the area within the conservation area directly east of the Georges River.</p>
RtS	Response to Submissions
Secretary, the	The Secretary of the Department of Planning, Housing and Infrastructure (formerly Department of Planning Infrastructure and Environment (DPIE))



Acronym/Term	Meaning
Site	MPW construction footprint
SSD	State significant development
TEU	Twenty-foot equivalent units

CONTENTS

REVISIONS	III
1 INTRODUCTION	10
1.1 Development Ownership	10
1.2 Moorebank Intermodal Precinct Overview	10
1.3 Development Consent	10
1.3.1 MPW Stage 2.....	10
1.4 Purpose	10
1.5 Objectives and Targets.....	13
1.6 Consultation.....	13
2 ENVIRONMENTAL MANAGEMENT	15
2.1 Legal and Other Obligations	15
2.1.1 Compliance Matrices	16
2.2 Roles and Responsibilities	18
2.3 Training.....	19
3 IMPLEMENTATION	20
3.1 Existing Environment.....	20
3.1.1 Construction Aspects, Impacts and Risks	20
3.1.2 Operational Bush Fire Hazard	21
3.2 Planning for Bush fire Protection	25
3.2.1 Provision of APZs	25
3.2.2 Operational Management of the APZ.....	25
3.2.3 Access Roads.....	27
3.2.4 Provision of Water, Electricity and Gas	27
3.3 Construction Management Measures.....	28
3.3.1 Maintenance Program	28
3.3.2 Management Measures.....	29
4 MONITORING AND REVIEW	34
4.1 Monitoring	34
4.2 Environmental Auditing and Reporting	34
4.3 Review and Improvement.....	34
4.4 Incidents	34
4.5 Non-Compliance and Non-Conformance	34
4.6 Complaints.....	34

APPENDICES

- Appendix A Compliance and Obligations Register
- Appendix B Precinct Masterplan
- Appendix C Weed Management
- Appendix D Evidence of Consultation

LIST OF TABLES

Table 1-1 Objectives and Targets	13
Table 1-2 Consultation Summary	13
Table 2-1 Legislation, Planning Instruments and Guidelines	15
Table 2-2 Relevant CoC - SSD 7709	16
Table 2-3 Final Compilation of Mitigation Measures (FCMM) SSD 7099	17
Table 2-4 Roles and Responsibilities	18
Table 3-1 APZ / Minimum defendable space requirements (PBP 2006)	25
Table 3-2 Emergency road access solutions adopted by the Development	27
Table 3-3 Water, electricity and gas provision in accordance with PBP 2006	27
Table 3-4 Maintenance Program	29
Table 3-5 Management Measures.....	30
<i>Table A-2 REMMs relevant to this Plan (Source: SSD 5066)</i>	<i>38</i>

LIST OF FIGURES

<i>Figure 1-1 Site Location.....</i>	<i>12</i>
<i>Figure 3-1 Certified Liverpool Bush fire Prone Land Map</i>	<i>22</i>
<i>Figure 3-2 APZ within the Development site(construction)</i>	<i>23</i>
<i>Figure 3-3 APZ within the Development Site (operations)</i>	<i>24</i>

1 INTRODUCTION

Approval for the construction and operation of Stage 2 of the Moorebank Precinct West (MPW) Development (State Significant Development (SSD) 7709) was received on 11 November, 2019. It comprises the second stage of development under the MPW Concept Approval (SSD 5066).

This Bush Fire Risk Management Plan (BRMP) has been developed to address bush fire planning requirements and manage bush fire risks during the construction phase of Stage 2 of the Moorebank Precinct West (MPW) Development (the Development).

Within this plan, a strategy has been established to demonstrate the Construction Contractor's approach to the management of bush fire risks. This BRMP 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 the applicable guidelines and standards specific to the management of bush fires during the construction phase of the Development.

The location of the Development is shown in Figure 1-1.

1.1 Development Ownership

In 2022, LOGOS joined the ESR group of companies and since August 2024, the LOGOS and ESR operations have been integrated to now operate under the name ESR Australia & NZ (ESR). The applicant/approval holder entity remains unchanged at this stage until further notice and references to LOGOS and LOGOS authored documents and/or plans may continue and remains relevant where LOGOS and ESR are used interchangeably.

1.2 Moorebank Intermodal Precinct Overview

The MPW Development and Moorebank Precinct East (MPE) Development are being developed into the Moorebank Intermodal Precinct (MIP), operated by ESR Australia & NZ (formerly LOGOS). When completed, the MIP will move 1.55 million shipping containers annually. It will also feature Australia's largest purpose-built warehouse and distribution precinct serviced by the latest automated technology which will see driverless shuttle carriers collect and transport containers around the precinct to be processed, unpacked and stored on site or distributed in smaller consignments

1.3 Development Consent

1.3.1 MPW Stage 2

MPW Stage 2 was approved by the Independent Planning Commission as SSD 7709 on 11 November, 2019 subject to CoCs. Details of the Development, including its potential impacts, consultation and proposed mitigation and management are documented in the following suite of documents:

- SSD Consent SSD 7099 as modified
- 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. 2011/6229) granted on 27 September 2016
- Moorebank Precinct West – Stage 2 – Environment Impact Statement, Appendix W (Australian Bushfire Protection Planners Pty Limited, July 2016).

1.4 Purpose

This BRMP has been developed to address the CoC, Final Compilation of Mitigation Measures (FCMM) and is based on the Bush fire Protection Assessment (Appendix W of the MPW Stage 2 EIS).

This BRMP has two aims, as follows:

1. Demonstrate that the Development is compliant with NSW Rural Fire Service's Planning for Bushfire Protection (PBP 2006) as detailed in CoC B189 to CoC B193 (addressed in Section 3.2)
2. Detail how bush fire risk will be managed during the construction phase of the Development.
 - Including methods to measure and reduce bush fire risk to the Development by the Construction Contractor during construction activities, including all sub-contractors and consultant partners.

The specific requirements for compilation of this BRMP, as identified in the CoC and FCMM, are outlined in the Compliance Matrices in Section 2.1.1 and Appendix A.

The most recent, approved version of this BRMP will be implemented to manage the Development's activities.

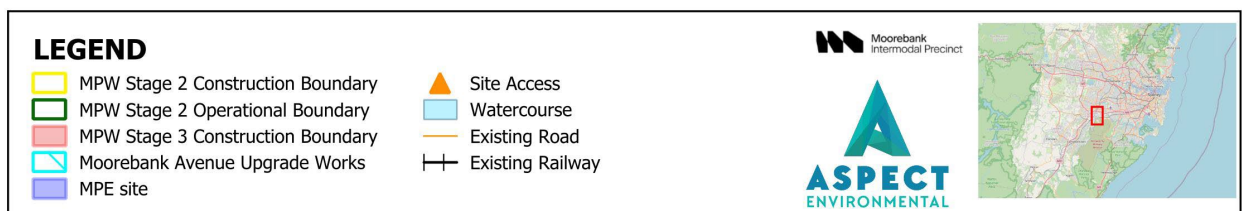
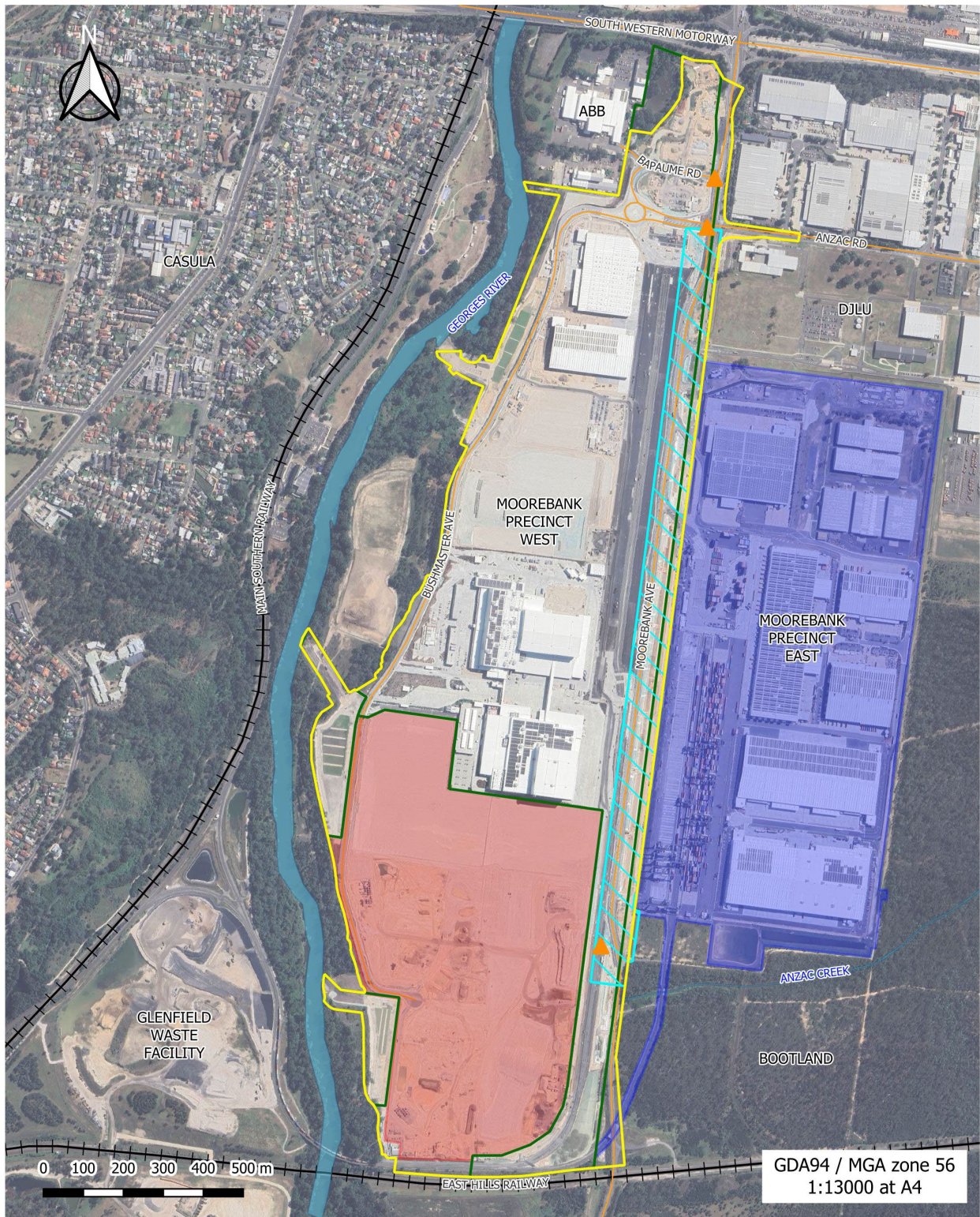


Figure 1-1 Site Location

1.5 Objectives and Targets

Table 1-1 outlines the high-level objectives and targets set out for the management of bush fire risks during construction. These objectives and targets were developed by the Principal's Representative based on collective industry experience and best practice.

Table 1-1 Objectives and Targets

Objective	Target	Timeframe	Accountability
Provide an update to the Bush Fire Assessment Report (Appendix W MPW Stage 2 EIS) so that the Development design and operation is consistent with the requirements of PBP 2006 as per CoC B191	Provision and maintenance of asset protection zones (APZs), access, water and services are consistent with planning requirements and CoC	Detailed design through to operation	The Development Manager Contractor's Works Package Manager (WPM) Contractor's Environmental Manager (EM)
Afford personnel onsite adequate protection from exposure to bush fire and minimise adverse impacts of bush fire	No death or injury to personnel during bush fire event	During construction	Contractor's WPM
Minimise adverse environmental consequences of bush fire Mitigate on-site landscaping contributing to precinct bush fire via installation of appropriate flora species and management devices	No avoidable contribution to fire via landscaping fuel loads during bush fire event	During construction	Contractor's WPEM
Compliance with all conditions of relevant approval conditions	No avoidable breach of management measures in Section 3.3	During construction	Contractor's WPEM

1.6 Consultation

This BRMP has been prepared in consultation with the NSW Rural Fire Services (RFS) as outlined below in Table 1-2. Supplementary information to support the consultation undertaken is included in Appendix D.

Table 1-2 Consultation Summary

Agency	Date	Person Contacted	Comment	Status
NSW Rural Fire Services	29/10/2019	RFS Representative	Initiated Consultation with RFS and sent copy of the MPWS2 –BRMP.	Open
	6/11/2019	RFS Representative	Follow up call. RFS stated they have no copy of the email sent on the 29/10/19.	Open
	7/11/2019	RFS Representative	Follow up call. RFS to reissue email.	Open
	12/11/2019	RFS Representative	Email sent to follow up progress of review.	Open



Agency	Date	Person Contacted	Comment	Status
	25/11/2019	RFS Representative	RFS indicated that comments will be issued.	Open
	28/11/2019	RFS Representative	Phone call to follow up progress of review.	Open
	29/11/2019	RFS Representative	Phone call to follow up progress of review.	Open
	3/12/2019	RFS Representative	Phone call to follow up progress of review.	Open
	4/12/2019	SIMTA Representative	RFS stated no comments resulted in plan updates. Consultation considered closed.	Closed

2 ENVIRONMENTAL MANAGEMENT

This section outlines the relevant legislation and project requirements that apply to bush fire risk management and identifies additional permits and approvals that may be required during construction works.

2.1 Legal and Other Obligations

Table 2-1 details the legislation, planning instruments and guidelines considered during development of this plan. Further detail concerning the legislation, planning instruments and guidelines identified below are provided in the Compliance and Obligations Register within Appendix A of the CEMP.

Table 2-1 Legislation, Planning Instruments and Guidelines

Legislation and Guidelines	Description	Relevance to this plan
<i>Environmental Planning and Assessment Act 1979</i>	This Act establishes a system of environmental planning and assessment of development proposals for the State.	The Development Consent conditions and obligations are incorporated into this plan.
<i>Rural Fires Act 1997</i>	This Act describes the specific requirements for development on land that has been declared as bush fire prone.	<p>Key sections of this Act that are relevant to this plan include, but are not limited to:</p> <ul style="list-style-type: none"> Part 4 Division 1 Section 63 - Duties of public authorities and owners and occupiers of land to prevent bush fires Part 4 Division 1 Section 64 - Occupiers to extinguish fires or notify firefighting authorities Part 4 Division 4 - Bush fire Danger Periods: Applicability to the performance of hot works in open areas Part 4 Division 6 - Total Fire Bans; Applicability to performance of hot works in open areas Part 4 Division 7 - Offences for starting fires.
PBP 2006	Provides aims and objectives for development on bush fire prone land.	<p>Development applications on bush fire prone land must be accompanied by a Bush Fire Assessment Report demonstrating compliance with the aim and objectives of PBP 2006. In particular:</p> <ul style="list-style-type: none"> The provision of Asset Protection Zones/Defendable Spaces to buildings located in bush fire prone areas Section 4.1.3(1) - Public road access compliance, with the exception of through-access Section 4.1.3 - Water, electricity and gas compliance. <p>This plan provides updates on the Bush Fire Assessment Report that was included in Appendix W of the MPW Stage 2 EIS.</p>

Legislation and Guidelines	Description	Relevance to this plan
NSW Rural Fire Service, DRAFT Planning for Bush Fire Protection 2018	Updates PBP 2006. A guide for councils, planners, fire authorities and developers which provides development standards for design and buildings on bush fire prone land in NSW.	Alongside PBP 2006, PBP 2018 guides the development and implementation of this BRMP.
NSW Rural Fire Service, Standards for Asset Protection Zones	Provides a six-step guide to create and maintain APZ on site.	Guides the establishment and maintenance of APZs under this BRMP.
Australian Standards AS3959-2009 – Construction in Bush fire Prone Areas	Covers the bush fire safety requirements of building in a bush fire prone area, as well as providing the methodology for calculating your bush fire attack level.	Identifies levels of bush fire attack and construction standards to buildings located in bush fire prone areas.
Australian Standards AS2419.1 – 2017 – Fire hydrant installations, Part 1: System design, installation and commissioning	Details the specifications for the provision of reticulated fire water systems and hydrants as required by PBP 2006.	Provides details on the external hydrant and ring main design to satisfy requirement of PBP 2006.
Australian Standards AS1596 – 2014 – The storage and handling of LP Gas	Details the specifications for LP Gas storage and fire safety as required by PBP 2006.	Provides details on suitable locations for LP Gas storage for fire safety purposes to satisfy requirement of PBP 2006.

2.1.1 Compliance Matrices

The Development is being delivered under Part 4, Division 4.7 of the EP&A Act. The CoC include requirements to be addressed in this plan and delivered during the Development. These requirements, and how they are addressed are provided within Table 2-2.

Table 2-2 Relevant CoC - SSD 7709

CoC No.	Condition	Where Addressed	How Addressed
Primary Conditions			
B189	Bush fire asset protection zones must not be within the riparian corridor as defined in Condition B2.	Section 3.2.1 Figure 3-3	The APZ as nominated in Section 3.2.1 and depicted in Figure 3-3 is contained wholly within the Development Site and does not impact the riparian corridor which is located within the Conservation Area.
B190	The entire site must be managed as an inner protection area (IPA) as outlined within section 4.1.3 and Appendix 5 of the Planning for Bush Fire Protection (RFS, 2006) and the NSW Rural Fire Service's document Standards for Asset Protection Zones.	Section 3.2.2 & Section 3.2.2.1 Operational Landscape Vegetation Management Plan (LVMP)	This section specifies performance standards of the IPA and stipulates the requirement for the LVMP to implement measures to meet these standards.

CoC No.	Condition	Where Addressed	How Addressed
Primary Conditions			
B191	An updated Bushfire Risk Management Plan must be prepared by a suitably qualified person(s) demonstrating that the bush fire asset protection zones can be contained wholly within the development area and that management of the inner protection zone will not impact on the proposed Biodiversity Offset Area. The Bushfire Risk Management Plan must be submitted to the Planning Secretary prior to construction of permanent built surface works.	This Plan Section 3.2 Figure 3-3	This plan has been prepared by a suitably qualified person (refer to author details at the start of this plan, page ii). Location, size and management of asset protection zones are detailed in Section 3.2. This BRMP will be submitted to the Secretary prior to construction of permanent built surface works, unless otherwise agreed by the Secretary.
B192	Public road access must comply with section 4.1.3(1) of Planning for Bush Fire Protection (RFS, 2006) except for the requirement for through-access.	Section 3.2.3 Section 3.3.2 Figure 3-2 Figure 3-3	This condition is primarily an operational requirement. Operational roads are discussed in Section 3.2.3. Road access during construction is also addressed in Section 3.3.2 (BM13-15). Refer to Figure 3-2 for construction access and Figure 3-3 for indicative operational road design.
B193	The provision of water, electricity and gas must comply with section 4.1.3 of Planning for Bush Fire Protection (RFS, 2006).	Section 3.2.4 Section 3.3.2	Section 3.2.4 summarises the relevant requirements of PBP 2006 and how the final Development has or will meet these requirements. Section 3.3.2 (BM27-30) details temporary measures employed to satisfy this CoC during the construction phase.

The Management and Mitigation Measures referred to in SSD 7709 CoC A3(d) (Appendix 2) are provided as the Final Compilation of Mitigation Measures (FCMM) (Arcadis, November 2018). A list of the FCMM as relevant to bush fire risk management and how they have been complied within this plan are provided in Table 2-3.

Table 2-3 Final Compilation of Mitigation Measures (FCMM) SSD 7099

FCMM	Requirement	Document Reference
0B	The Construction Environmental Management Plan (CEMP), or equivalent, for the Proposal would be based on the PCEMP (Appendix I of this EIS), and include the following preliminary management plans: ... Bushfire Management Strategy	This plan Construction management measures addressed in Section 3.3
13A	The following actions would be considered for implementation, where reasonable and feasible, for mitigation of bushfire risk during construction:	This plan Construction management measures addressed in Section 3.3

FCMM	Requirement	Document Reference
	A bushfire management strategy, or equivalent, would be prepared as part of the CEMP for the construction phase. The strategy would include:	
	<ul style="list-style-type: none"> Emergency response plans and procedures 	A Construction Emergency Response Plan (CERP) has been prepared as a sub-plan of the CEMP. The bush fire emergency response procedure detailed in the CERP has been informed by the Bush Fire Assessment Report and this plan.
	<ul style="list-style-type: none"> All site offices and temporary buildings would have a minimum setback of 10m to bushfire prone areas 	Section 3.3.2 (B17) Figure 3-2
	<ul style="list-style-type: none"> All site offices would be accessible via access roads suitable for firefighting appliances similar to NSW Rural Fire Service category 1 tankers. 	Section 3.3.2 (BM13-15)

The MPW – Concept Proposal and Stage 1 Early Works (SSD 5066) was approved on 3 June 2016. The conditions of consent relate primarily to the management of Stage 1 Early Works or the assessment of later works and are therefore not included in this plan.

The Revised Environmental Management Measures (REMM) for SSD 5066 were presented in the Supplementary Response to Submissions Report (Arcadis, August 2017). The REMM relevant to this plan are identified in Table A-1 at Appendix A.

The EPBC Act approval for the MPW Concept was granted by the then Department of the Environment and Energy (now Department of Climate Change, Energy, the Environment and Water (DCCEEW)) in September 2016 (No. 2011/6086). This approval was provided for the impact of the MPW Development on listed threatened species and communities (Sections 18 and 18A of the EPBC Act) and Commonwealth action (Section 28 of the EPBC Act). No specific conditions relating to bush fire management are detailed within the EPBC Conditions of Approval.

EPBC REMM are presented in the Moorebank Intermodal Terminal Final EIS prepared to satisfy the Commonwealth approval process (EPBC Final EIS) dated Dec 2015. The EPBC REMM are generally the same as the REMM presented in the Supplementary Response to Submissions Report for the MPW Concept Proposal Modification 1 (Arcadis, 2017) (refer to Appendix A).

2.2 Roles and Responsibilities

Key roles and responsibilities associated with the construction management aspects of this plan are presented in Table 2-4.

Table 2-4 Roles and Responsibilities

Roles	Responsibilities
Contractor's Construction Manager (Contractor's CM)	<ul style="list-style-type: none"> Oversee the overall implementation of this BRMP Report on the performance of this BRMP
Contractor's Environmental Manager (Contractor's WPEM)	<ul style="list-style-type: none"> Undertake site inspections in accordance with Section 4.1 of this BRMP Monitor and report on the implementation of the environmental components of this BRMP, including compliance with relevant CoC Monitor sub-contractor compliance with the management measures of his BRMP

Roles	Responsibilities
	<ul style="list-style-type: none"> • Provide emergency services/personnel safe operational access and egress to bush fire prone land • Direct works to be performed in a more environmentally responsible manner that reduces impacts and stop works if there is a risk of environmental harm or increased bush fire hazard
Site Supervisor	<ul style="list-style-type: none"> • Implement this BRMP • Facilitate awareness of appropriate bush fire mitigation measures and deliver toolbox talks to Site personnel • Direct works to be performed in accordance with bush fire management measures • Maintain emergency service access to bush fire prone land • Confirm all components of the implemented BRMP meet requirements • Direct all IPA maintenance program works associated with bush fire protection
All Personnel	<ul style="list-style-type: none"> • Comply with the requirements of this CAQMP

2.3 Training

Training will be undertaken in accordance with Section 2.7 of the CEMP. The contractor will provide all employees with suitable environmental induction / training (relevant to this BRMP) so that they are aware of their responsibilities and are competent to carry out the work.

As a minimum the induction will include the following:

- The Development's Environmental Policy and Environment Management System (EMS) requirements
- The requirements of this BRMP, including environment incident reporting and mitigation methods for reduction of bush fire ignition risk (as detailed in Section 3.3)
- Environmental emergency contact details
- Relevant emergency response procedures as detailed in the Development CERP.

Toolbox meetings will also be undertaken, as and when required. On days of Total Fire Ban (TOBAN), Toolbox meetings will be completed prior to work commencing outlining the Fire Danger for the day and reinforce the relevant emergency response procedures as detailed in the Development CERP.

3 IMPLEMENTATION

3.1 Existing Environment

3.1.1 Construction Aspects, Impacts and Risks

The Bush Fire Assessment Report (accompanying the MPW State 2 EIS) identified that the construction related activities were a low risk of causing bush fire ignition, with the site more likely to be at risk from bush fires originating in surrounding vegetation.

Figure 3-1 presents the Certified Liverpool Bushfire Prone Land Map. The dominant bush fire prone land is situated to the west and south of the site and includes land designated as Category 1 Bushfire Prone Land and associated vegetation buffer. A bush fire prone area is an area of land that can support a bush fire or is likely to be subject to bush fire attack, as designated on a bush fire prone land map.

Vegetation Category 1 land¹ is considered to be the highest risk for bush fire. It is represented as red on the bush fire prone land map and has a 100m buffer. This vegetation category has the highest combustibility and likelihood of forming fully developed fires including heavy ember production. Vegetation Category 1 consists of areas of forest, woodlands, heaths (tall and short), forested wetlands and timber plantations.

The bush fire prone land mapped within the construction boundary will be cleared during construction and as a result the bush fire hazard within the site boundary will be significantly reduced from that represented in *Figure 3-1*). Construction compound sites will not be established within the western boundary APZ or within 10m from any bush fire prone vegetation. The vegetation within the Conservation Area will be permanently retained and regenerated and will present an ongoing bush fire prone land hazard to the Development throughout construction.

Both external sources and construction activities have the potential to ignite a bush fire. A bush fire may result in significant social, economic and ecological impacts on the Development and surrounding environment.

External sources of ignition include:

- Deliberate burning of bushland (including arson), including the re-ignition of an incompletely extinguished hazard reduction burn of bushland
- Car dumping
- Discarded cigarette butts
- Illegal burning
- Lightning strike.

Construction activities (including the activities of site personnel) which may have the potential to cause ignition of bush fires include:

- Hot works
- Idling of vehicles and vehicle exhaust (excluding diesel engine vehicles) on vegetated areas
- Sparks or flame sources such as grinders and welders
- Stockpiles of vegetation such as mulch
- Site personnel discarding cigarette butts inappropriately.

The impacts of the above may include:

- Damage to site facilities, property and equipment
- Damage to neighbouring property
- Increased risk of safety to site personnel, local residents, local businesses and the environment
- Damage / destruction of threatened species.
- Reputational damage, litigation and legal exposure for loss.

¹ 2015 (NSW RFS) Guide for Bush Fire Prone Land Mapping

For fire originating on the site, which spreads beyond the site boundaries, legal exposure may exist for any damage or loss incurred on external assets.

Section 63 (2) of the Rural Fires Act imposes a duty on land managers to prevent the occurrence and spread of bush fire on or from their land such that:

It is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of bush fires on, and to minimise the danger of the spread of bush fires on or from, that land.

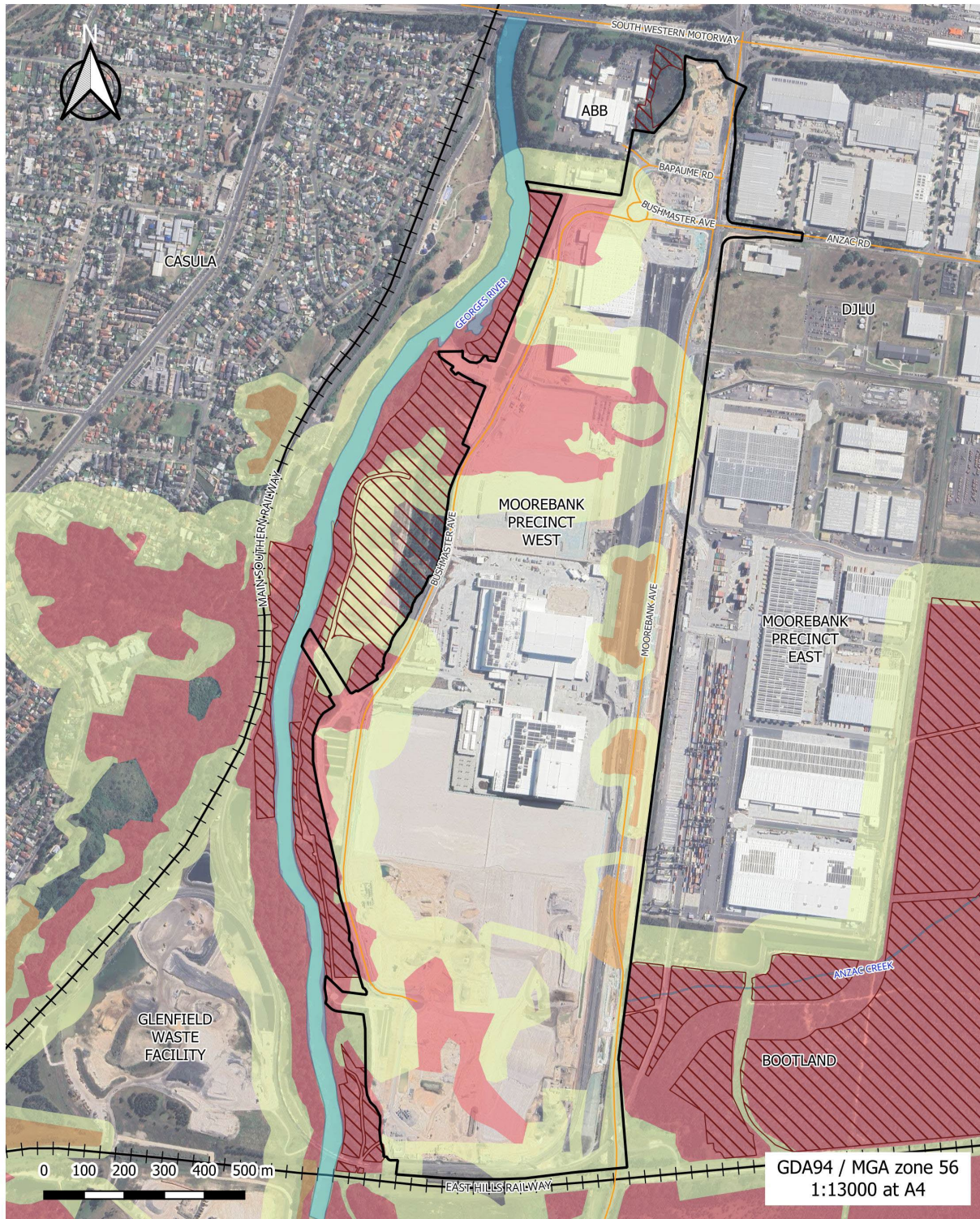
3.1.2 Operational Bush Fire Hazard

As discussed in the Bush Fire Assessment Report, the potential bush fire threat during the operational stage of the Development will come from the rehabilitated forest vegetation within the Conservation Area west of the Development, adjacent to Georges River (see Figure 3-1).

The bush fire threat to the Development Site from the vegetation in the Conservation Zone is deemed to be high due to the potential for this vegetation to be involved in a fire event which occurs under a northwest, west or southwest wind influence. The threat will be expressed in high levels of ember attack, radiant heat and possible flame contact – the latter depending on the separation width to buildings and other assets.

A potential threat also exists from the forest vegetation on the Commonwealth Land to the east of Moorebank Avenue and to the south of the East Hills Railway Line. The separation provided by Moorebank Avenue to the east and the East Hills Railway Line to the south reduces the threat from these directions to moderate. The threat from the east and south will be expressed in moderate levels of ember attack and radiant heat. The Bush Fire Assessment Report determined that flame contact from the south is unlikely to occur. This remains to be the case for the Development.

The design of the Development has been prepared in consideration of the recommendations of PBP (2006) as is required by the CoC (see Section 3.2).



LEGEND	Bushfire Prone Areas
MPW Stage 2 Construction Boundary	Vegetation Category 1
Conservation Area (BioBank site)	Vegetation Category 2
Existing Road	Vegetation Buffer
Existing Railway	
Watercourse	

LOGOS

Figure 3-1 Certified Liverpool Bush fire Prone Land Map

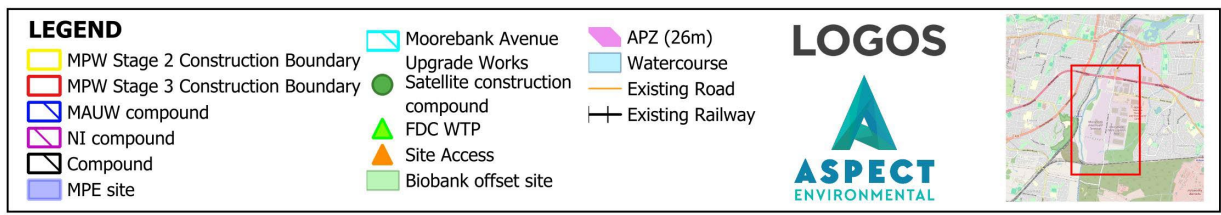
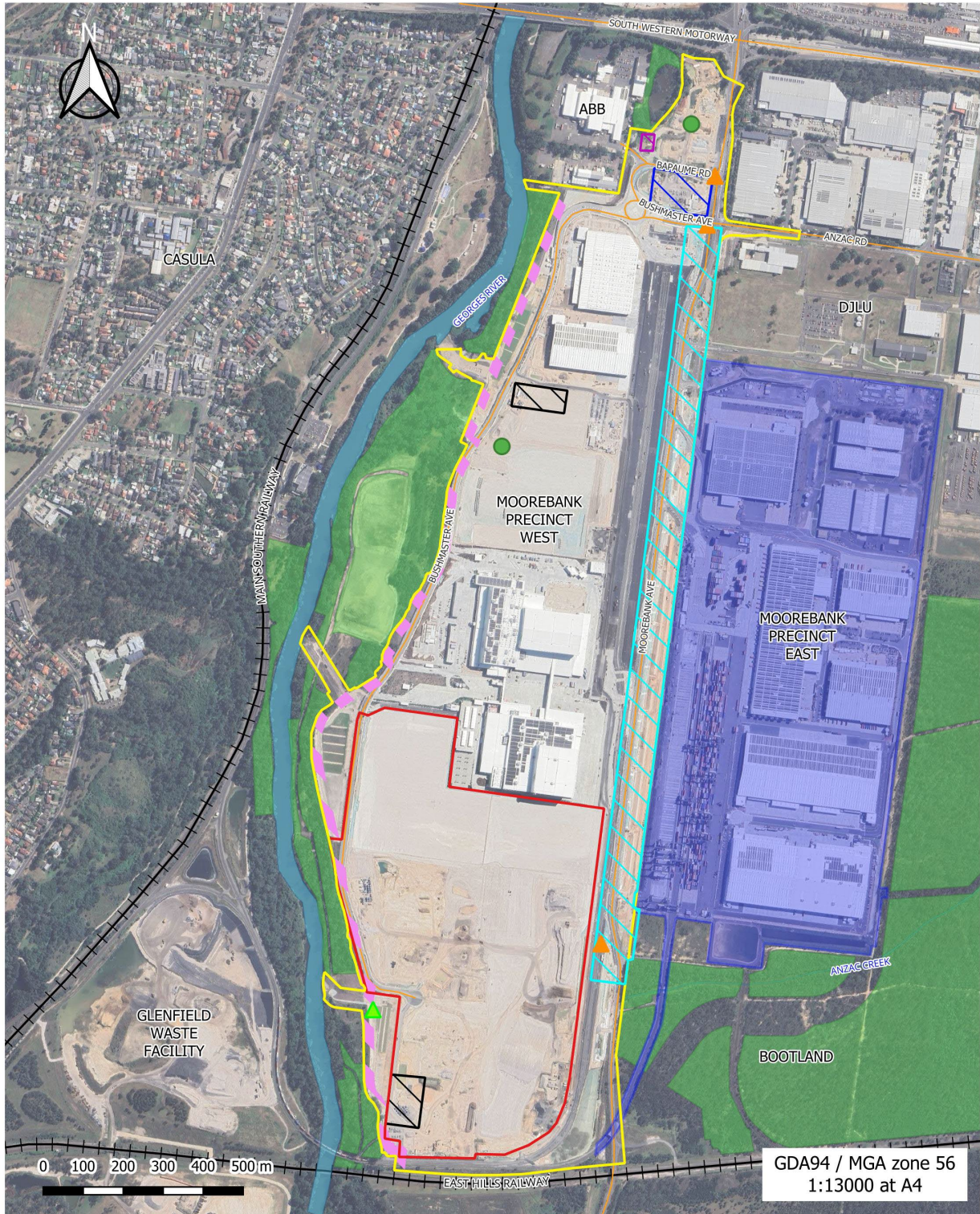


Figure 3-2 APZ within the Development site (construction)

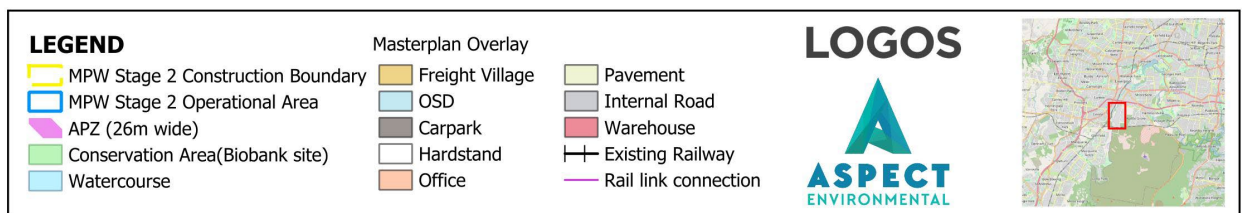


Figure 3-3 APZ within the Development Site (operations)

3.2 Planning for Bush fire Protection

The primary objective of this BRMP is to demonstrate that the Development remains compliant with PBP (2006) (as was determined in the Bush Fire Assessment Report prepared for the EIS) and reduces risk to a tolerable level. The following sub-sections detail the design measures employed to meet the performance criteria of PBP 2006 (see Figure 3-3 and Appendix B for the Masterplan layout for the Development).

3.2.1 Provision of APZs

The APZ requirements have not changed since the Bush Fire Assessment Report was prepared for the EIS. The land adjacent to the north, east and south areas of the site will all comprise managed curtilage, while the west contains Forest wetlands and Riverine Forest within the Conservation Area. As such, an APZ is only required for the west side of the site.

The APZ for the west side of the site was determined in accordance with PBP (2006). A minimum APZ of 26m is required between the fixed assets (i.e. warehousing) and the bush fire prone vegetation located within the Conservation Area (Table 3-1). As shown in Figure 3-3 the APZ will be situated wholly within the site and does not impact the riparian corridor (as specified in CoC B2 – refer to Acronyms and Definitions) within the Conservation Area.

Table 3-1 APZ / Minimum defensible space requirements (PBP 2006)

Aspect	Vegetation Type	Minimum Defendable Space/APZ	Defendable space provided in the final design
North	Managed curtilage	N/A	N/A
East	Managed curtilage	N/A	N/A
South	Managed curtilage	N/A	N/A
West	Forest wetlands and Riverine forest	26 m	Minimum 37 m

As detailed in Table 3-1 and shown in Figure 3-3, a minimum distance of 37m comprises the defensible space between the warehouse and edge of the Development boundary. The separation between the warehouses and the bush fire prone vegetation exceeds the required defensible space of 26m, as such, the risk of flame contact, high levels of radiant heat and ember attack on the warehouses and buildings within the site is significantly reduced.

3.2.2 Operational Management of the APZ

The entire Development Site, in addition to the defensible space and APZ, will be managed as an IPA in accordance with the Rural Fire Service publication *Standards for Asset Protection Zones*. To achieve this objective, the Development owner will manage the site in strict compliance with the prescriptions outlined in Section 3.2.2.1 of this BRMP, the operational Landscape Vegetation Management Plan (a sub-plan of the MPW Precinct OEMP) and in accordance with any notice issued by Liverpool Council or the Commissioner of the NSW Rural Fire Service, under the terms of Section 66 of the *Rural Fires Act 1997*.

3.2.2.1 IPA Performance Standards

Vegetation in IPA (i.e. the entire Development Site) should be managed to prevent flame contact and reduce radiant heat to buildings, minimise the potential for wind driven embers to cause ignition and reduce the effect of smoke on residents and fire-fighters. The RFS has established a series of performance standards and acceptable solutions to achieve this objective as detailed below.

The performance standards for the IPA as informed by Appendix 5 of PBP 2006 and RFS NSW *Standards for Asset Protection Zones* include the following:

NOTE: The operational Landscape Vegetation Management Plan (sub-plan of the OEMP) will be responsible for the implementation of management measures to meet the above-listed performance standards. A landscaping sub-contractor will be appointed to carry out the management measures of the LVMP and will hence be responsible for maintaining the IPA to the necessary performance standards detailed above. Where appropriate, some of these measures may be implemented during construction as detailed in Section 3.3.1.

Trees

- canopy cover should be less than 15% (at maturity)
- trees (at maturity) should not touch or overhang the building
- lower limbs should be removed up to a height of 2m above ground
- canopies should be separated by 2 to 5m
- preference should be given to smooth barked and evergreen trees.
- Trees and shrubs with the Development Site will be maintained in such a manner that the vegetation is not continuous

Shrubs

- create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings
- shrubs should not be located under trees
- shrubs should not form more than 10% ground cover
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- should be kept mown (as a guide grass should be kept to no more than 100mm in height)
- leaves and vegetation debris should be removed.

General

- Maintain a clear area of low-cut lawn or pavement adjacent to the buildings
- Fuel loadings should be maintained to a maximum dry litter weight of less than 3 tonnes/hectares during the prescribed 'Bush fire Danger Period' (1 October – 31 March or as declared)
- Keep areas under fences, gates and trees, raked and clear of combustible fuels
- Keep stormwater drainage pits free of leaf litter and combustibles
- Maintain a policy of installing non-combustible fencing and retaining wall structures
- Landscape species selection will be drawn from those that are considered to be species which are "*fire retardant*" and do not promulgate the spread of fire and shrubs shall be placed so that they are clear of the facility by at least 5m, and introduced trees and shrubs on site are not species that retain dead material. However, the removal of significant native species should be avoided
- Avoid the use of flammable mulch in garden beds that adjoin the buildings
- Any additional relevant hazard reduction measures as detailed in Step 4 of the *Standards for Asset Protection* (RFS NSW)
- Ongoing maintenance and landscaping measures as detailed in Step 6 of the *Standards for Asset Protection* (RFS NSW).

Weed Management

Where exotic species have naturalised or planted specimens have escaped garden beds into the bushland, they should be treated in accordance with the methods detailed Appendix C.

3.2.3 Access Roads

The access requirements of PBP 2006 stipulate that public road access in bush fire prone areas should provide safe operational access to structures and water supply for emergency services, while occupants are seeking to evacuate from an area.

Table 3-2 details the measures recommended in PBP 2006 and adopted by the Development to meet the objective of providing suitable access for a Category 1 tanker (medium rigid vehicle).

The updated precinct masterplan shows the layout of the access roads in relation to the bush fire prone vegetation within the conservation area (Appendix B).

Table 3-2 Emergency road access solutions adopted by the Development

Acceptable Solutions (PBP 2006)	Solutions adopted by the Development
Provision of all-weather two-wheel drive perimeter road to gain access to the hazard source and serve as part of the APZ	All roads within the Development Site will be sealed and suitable for all-weather access for two-wheel-drive vehicles. A perimeter road, (Bushmaster Avenue) runs adjacent to the western boundary of the Development Site APZ.
Roads should provide sufficient width to allow firefighting vehicle crews to work with firefighting equipment about the vehicle	All roads within the Development Site are designed to accommodate vehicles larger than employed by firefighting crews (Category 1 tanker) and will therefore be sufficient to provide the necessary width, turning circle radii and height clearance for emergency services access.
Roads should be minimum two-way and at least 8m kerb-to-kerb	
Turning circles should have a minimum outer radius of 12m and minimum inner radius of 6m	The kerb to kerb width of the western perimeter road will be approximately 17m wide. Turning circles sufficient for B-doubles are provided at intervals along Bushmaster Avenue to allow safe egress.
Minimum height clearance of 4m above the road at all times	
Roads should be clearly signposted	A signage strategy will be developed prior to operation of the Development that provides easy navigation throughout the site.
Provide clear access to reticulated water supply outside of parking bays to ensure access for fire suppression purposes.	The perimeter road will not include parking and hydrants situated in proximity to the warehouses will be situated outside of parking bays.

3.2.4 Provision of Water, Electricity and Gas

PBP (2006) details a range of performance standards relating to the provision of water for fire suppression and utilities including gas and electricity. Table 3-3 details the performance criteria and the measures adopted by the Development to meet those standards.

Table 3-3 Water, electricity and gas provision in accordance with PBP 2006

Performance Criteria (PBP 2006)	Acceptable Solutions (PBP 2006)	Solutions adopted by the Development
Water Supply		
<ul style="list-style-type: none"> Reticulated water supplies are easily accessible and located at regular intervals 	Reticulated water supply uses a ring main system for areas with perimeter roads	A reticulated main system has been installed along Bushmaster Avenue for the Development
	Fire hydrant spacing, sizing and pressures comply with AS 2419.1 – 2005	The provision of fire engineered infrastructure will comply with AS 2419.1 – 2005
	Hydrants are not located within any road carriageway	Hydrants will not be located within the road carriageway

Performance Criteria (PBP 2006)	Acceptable Solutions (PBP 2006)	Solutions adopted by the Development
	All above ground water and gas service pipes external to the building are metal, including and up to any taps	Above-ground water and gas services where required within the APZ setback will be metal
	The provisions of parking on public roads are met	No parking will be established along Bushmaster Avenue, this will allow unimpeded access to hydrants nearest to the bush fire prone vegetation
Electricity Services		
<ul style="list-style-type: none"> Location of electricity services limits the possibility of ignition of surrounding bushland or the fabric of buildings Regular inspection of lines is undertaken to ensure they are not fouled by branches 	Where practicable, electrical transmission lines are underground	All electrical transmission lines within the Development Site will be installed underground
Gas services		
<ul style="list-style-type: none"> Location of gas services will not lead to ignition of surrounding bushland or the fabric of buildings 	Reticulated or bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. Metal piping is to be used	The provision of gas infrastructure within the Development Site will comply with AS 1596

3.3 Construction Management Measures

3.3.1 Maintenance Program

The following maintenance program will be implemented for bush fire protection at the Development Site. Table 3-4 provides a guide to the timing of the works for the maintenance program. All maintenance program works outlined in Table 3-4 will be directed by the site Supervisor.

APZs should be inspected and certified by a suitably qualified person prior to October in each year to confirm that maintenance works have been completed in accordance with section 3.2.2 of this Plan.

Table 3-4 Maintenance Program

Management Area		Management Prescription	Method	Timing
Landscaped areas*	Landscaped Gardens	Minimise the accumulation of combustible fuels and accumulated ground litter to < 3 tonnes/hectare	Manual removal of combustible fuels Pruning of shrubs	Intervals not to exceed monthly in spring and summer
	Lawns and verges to roads	Minimize fine fuels to < 3 tonnes/hectare	Mowing and slashing	Intervals not to exceed monthly in spring and summer
	Trees	Provide 2m canopy separation between trees Maintain limbs 2m clear of ground and shrubs	Pruning	Annual inspection with works undertaken in spring
Buildings**	External surfaces / gutters	Check fire protection measures to buildings Confirm placement and integrity of ember screening Clean roof box gutters	Visual check and repair if necessary Manual removal of debris	Annual inspection Removal of combustible materials in gutters not to exceed monthly in the spring and summer months

* To commence following the installation of permanent landscaping occurring within active construction areas. Landscaping in operational areas will be carried out in accordance with the LVMP as a sub-plan of the Precinct OEMP.

** Applies to temporary compound buildings. Management of operational buildings will be addressed in Warehouse/facility OEMPs.

3.3.2 Management Measures

This section describes the bush fire management measures to be implemented during construction of the Development.

This section describes the overall approach to managing and mitigating bush fire risks during construction of the Development. The management measures in Table 3-5 are based on the CoC, FCMMs and REMMs, as well as the requirements and standards of PBP (2006), The Developer and the Construction Contractor.

Table 3-5 Management Measures

ID	Management Measure	Timing	Responsibility	Reference
Training				
BM1	Bush fire awareness and requirements of bush fire safety will be included in staff inductions and in toolbox talks pre-commencement.	Prior to construction	Contractor's WPEM	Best practice CERP
BM2	All staff will be required to undergo staff / site inductions and toolbox talks. On Total Fire Ban days, staff will be informed during toolbox talks of the Fire Danger for the day and reminded of the relevant emergency response procedures as detailed in the Development CERP.	During construction	Contractor's WPEM Site Supervisor	PBP 2006
Plant and Equipment				
BM3	Firefighting equipment will be made available at designated locations in site offices and within site vehicles. Firefighting equipment will be maintained in accordance with AS 1851:2012.	During construction	Contractor's WPEM Contractor's WPM	PBP 2006
BM4	Fire hydrants will not be located within any road carriageway.	During construction	Contractor's WPM	PBP 2006
BM5	Where reticulated water supply is available, fire hydrant spacing, sizing and pressures will comply with AS 2419.1-2005.	During construction	Contractor's WPM	PBP 2006
BM6	Plant and equipment will be fitted with appropriate guards to minimise potential for sparks causing accidental ignition.	During construction	Contractor's CM	PBP 2006
BM7	Water trucks will be available on site at all times.	During construction	Contractor's CM	PBP 2006
BM8	Hazardous materials transport, containment and storage will comply with the relevant regulations of the <i>Dangerous Goods Safety Act 2004</i> . All hazardous	During construction	Contractor's CM	PBP 2006 CERP

ID	Management Measure	Timing	Responsibility	Reference
	materials will be stored in accordance with the relevant Australian Standards in designated areas.			
BM9	Vehicles, plant and materials will not be stored so as to obstruct access paths for emergency services to temporary buildings, built assets and bush fire prone vegetation.	During construction	Site Supervisor	FCMM 7A
Construction Activities				
BM10	No vehicles will be permitted to idle while on vegetation to minimise risk of ignition.	During construction	Site Supervisor	PBP 2006
BM11	No hot works will be permitted during total fire bans. Exemptions can be obtained from RFS NSW for emergency purposes.	During total fire ban	Site Supervisor	FCMM 13A PBP 2006
BM12	All flammable material will be removed from the vicinity of hot works.	During hot works activities	Site Supervisor	PBP 2006
Access and Compounds				
BM13	All site offices will be accessible via access roads suitable for firefighting appliances similar to NSW RFS Category 1 Tankers. See Section 3.2.3.	During construction	Contractor's CM	FCMM 13A PBP 2006
BM14	Access roads will be well maintained and inspected to confirm that firefighting access is adequate. See Section 3.2.3.	During construction	Site Supervisor	PBP 2006
BM15	Public access roads will be two-wheel drive and all weather.	During construction	Contractor's CM	PBP 2006
BM16	The emergency assembly point and evacuation routes will be clearly signposted and communicated.	During construction	Contractor's CM	PBP 2006 CERP
BM17	All site offices and temporary buildings will be located at least 10m outside bush fire prone vegetation (see Figure 3-2)	During construction	Contractor's CM	FCMM 13A PBP 2006
BM18	Emergency services / site personnel will have safe access and egress to bush fire prone land at all times.	During construction	Contractor's CM	FCMM 7A PBP 2006

ID	Management Measure	Timing	Responsibility	Reference
BM19	Emergency services access to bush fire prone land will be adequately maintained at all times.	During construction	Site Supervisor	FCMM 7A PBP 2006
Asset Protection Zones				
BM20	The asset protection zones (APZs) will be contained within the site boundary and will not extend into the riparian corridor and/or Conservation Area.	During construction	Contractor's WPEM	CoC B189 CoC B190
BM21	The APZs will be managed and maintained to prevent the spread of fire towards the building in accordance with the requirements of the <i>Standards for Asset Protection Zones</i> (RFS 2005). See Section 3.2.2.1.	During construction	Contractor's WPEM	CoC B190
BM22	Soil stability of the APZs will not be compromised.	During construction	Contractor's WPEM	PBP 2006
BM23	The APZs will be located on lands with a slope less than 18 degrees.	During construction	Contractor's WPEM	PBP 2006
Vegetation Management				
BM24	Vegetation buffer zone (as shown on will be clearly designated and shall not be used at any time for storage of materials during construction.	During construction	Contractor's WPEM	PBP 2006
BM25	Stockpiles of mulch will be maintained and turned regularly to minimise potential for spontaneous combustion.	During construction	Site Supervisor Contractor's WPEM	PBP 2006
Consultation				
BM26	Actively engage in, and maintain, on-going consultation with RailCorp and the Rural Fire Service to facilitate hazard reduction activities in proximity to the Development.	During construction	Contractor's WPM	PBP 2006
Services				
BM27	Electricity lines will be regularly inspected to confirm that they are not fouled by branches.	During construction	Site Supervisor	CoC B193 PBP 2006

ID	Management Measure	Timing	Responsibility	Reference
BM28	Electricity transmission lines will be located underground in the first instance where practicable to limit the possibility of ignition of surrounding bushland or the fabric of buildings.	During construction	Contractor's CM	CoC B193 PBP 2006
BM29	Trees and other vegetation in the vicinity of overhead electrical transmission lines will be managed and trimmed in accordance with the distance specifications in <i>Vegetation Safety Clearances</i> issued by Energy Australia (NS179 April 2002).	During construction	Contractor's CM Contractor's WPEM	CoC B193 PBP 2006
BM30	Overhead electrical transmission lines will be installed with short pole spacing (30 m).	During construction	Contractor's CM	CoC B193 PBP 2006

4 MONITORING AND REVIEW

4.1 Monitoring

Monitoring, including site inspections will be undertaken in accordance with Section 4.1 and Section 4.2 of the CEMP. The Contractor's WPEM will conduct weekly inspections of the Development activities to monitor conformance and compliance with the requirements of the CoC and this plan. Weekly inspections will focus on the following key issues:

- Presence and maintenance of firefighting equipment
- Maintenance of plant and vehicles to minimise sparks and accidental ignition
- Maintenance of emergency assembly point and evacuation route signage as per CERP
- Maintenance of temporary building APZs clear of plant, materials and bush fire prone vegetation
- Compliance of all employees and contractors with the management measures detailed in Section 3.3.2.

Weekly inspections are also to occur prior to Rostered Day Off (RDO) weekends and other times where the Development Site will be closed or inactive for an extended period.

4.2 Environmental Auditing and Reporting

Auditing and reporting of the Development will be undertaken in accordance with Section 4.3 of the CEMP.

4.3 Review and Improvement

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

Revisions of this plan will be undertaken in accordance with Section 1.2.4 of the CEMP.

4.4 Incidents

In the event of a safety / environmental incident or unpredicted impacts related to bush fire risk, it is the responsibility of all personnel to report to the site Supervisor. In the event of an incident causing unpredicted impacts, this plan and its procedures should be reviewed and updated in accordance with Section 4.3 to implement revised measures which will mitigate ongoing and future impacts as soon as possible.

All environmental incidents will be managed and reported in accordance with Section 2.10 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 WPEM. 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 2.8.3 of the CEMP and Section 3.3.7 of the Community Communication Strategy.

APPENDIX A COMPLIANCE AND OBLIGATIONS REGISTER

Conditions of Consent

The primary CoC for SSD 7099 are detailed in Table 2-2 in Section 2.1.1. Table A-1 details other CoC that are also relevant to this plan.

Table A-1 CoC (SSD 7099)

CoC No.	Condition	Plan Section	How Addressed
SSD 7709 Conditions			
A1	In addition to meeting the specific performance measures and criteria established under this consent all reasonable measures must be implemented to prevent, and if prevention is not reasonable, minimise, any harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Section 3.2 Section 3.3	Section 3.3 of this BRMP identifies the management measures to be implemented to prevent and minimise environmental harm during construction. Section 3.3 details how the design's bush fire mitigation activities are retained within the Development Site and avoid impacts to adjacent land. Section 4 sets out the process for monitoring and review of the effectiveness of these measures. Opportunities to further minimise environmental harm will be identified through the ongoing evaluation of environmental management performance and effectiveness of this plan.
A2	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Section 2.2 Section 2.3	Section 2.2 details the roles and responsibilities of persons involved in construction activities and Section 2.3 addresses the training requirements for employees and contractors operating within the Development Site.
A3	The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; (c) in accordance with the EIS, Response to Submissions (RtS) and Consolidated assessment clarification responses; and (d) in accordance with the management and mitigation measures in Appendix 2.	Section 2.1 Section 3.3.2 Appendix A	These sections address the legal obligations and associated management measures as are relevant to this Plan.
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	Section 2.1	Guidelines, protocols and Australian Standards relevant to traffic and access are listed in Section 2.1.

CoC No.	Condition	Plan Section	How Addressed
SSD 7709 Conditions			
	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.		
A28	<p>Where conditions of this consent require consultation with an identified party, the Applicant must:</p> <p>a) consult with the relevant party prior to submitting the subject document to the Planning Secretary for approval; and</p> <p>b) provide details of the consultation undertaken in the document submitted to the Planning Secretary including:</p> <p>i) the outcome of that consultation, matters resolved and unresolved (and the justification for matters remaining unresolved); and</p> <p>ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.</p>	Section 1.4	Section 1.4 details consultation undertaken in preparation of this plan.
A43	If approved by the Planning Secretary, updated strategies, plans or programs supersede the previous versions of them and must be implemented in accordance with the condition that requires the strategy, plan or program.	Section 1.4	This is noted within Section 1.2 as a requirement of this Plan.
B2(k)	The bushfire asset protection requirements are within the development area	Section 3.2.1	This section addresses the provision of the APZ and its requirement to remain within the Development Site boundary.
C1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:		
C1 (a)	detailed baseline data;	Section 3.1	This section details relevant information related to bush fire threat surrounding the Development Site as was assessed for the Bush Fire Assessment Report.
C1 (b)	<p>details of:</p> <p>i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);</p>	Section 2.1	Section 2.1 provides a list of the relevant statutory requirements required for the Development.
	ii) any relevant limits or performance measures and criteria; and	Section 1.5	Section 1.5 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	Section 3.2.2.1 Section 3.3.2	These sections detail the management measures and performance standards required to be implemented under this BRMP.

CoC No.	Condition	Plan Section	How Addressed
SSD 7709 Conditions			
	implementation of, the development or any management measures;		
C1 (c)	a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Section 3.3.2	Section 3.3.2 identifies the construction mitigation and maintenance management measures for the Development.
C1 (d)	a program to monitor and report on the: i) impacts and environmental performance of the development;	Section 4	This section outlines the program for monitoring and review.
	ii) effectiveness of the management measures set out pursuant to paragraph (c) above;	Section 4.3	This section outlines the procedure for review and improvement of measures set out in this plan.
C1 (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;	Section 4.3 Section 4.4	These sections address the approach to managing unexpected impacts.
C1 (f)	a program to investigate and implement ways to improve the environmental performance of the development over time;	Section 4.2	This section outlines the program for monitoring and review.
C1 (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);	Section 4.4	This section outlines processes to be implemented when non-compliances or non-conformances are identified.
	ii) complaint;	Section 4.6	This section outlines complaints handling procedure.
	iii) failure to comply with statutory requirements;	Section 4.5	This section outlines processes to be implemented when non-compliances or non-conformances are identified.
C1 (h)	roles and responsibilities for implementing the plan; and	Section 2.2	This section details roles and responsibilities for implementing this plan.
C1 (i)	a protocol for periodic review of the plan.	Section 4.3	This section outlines the requirements for review of this plan.
	Note: <i>The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</i>		Noted.

EPBC Approval Revised Environmental Management and Mitigation Measures (REMMs)

The REMMs for MPW Stage 1 (SSD 5066) were presented in the Supplementary Response to Submissions Report (Parsons Brinckerhoff, August 2017). The REMMs relevant to this BMP are identified in Table A-2.

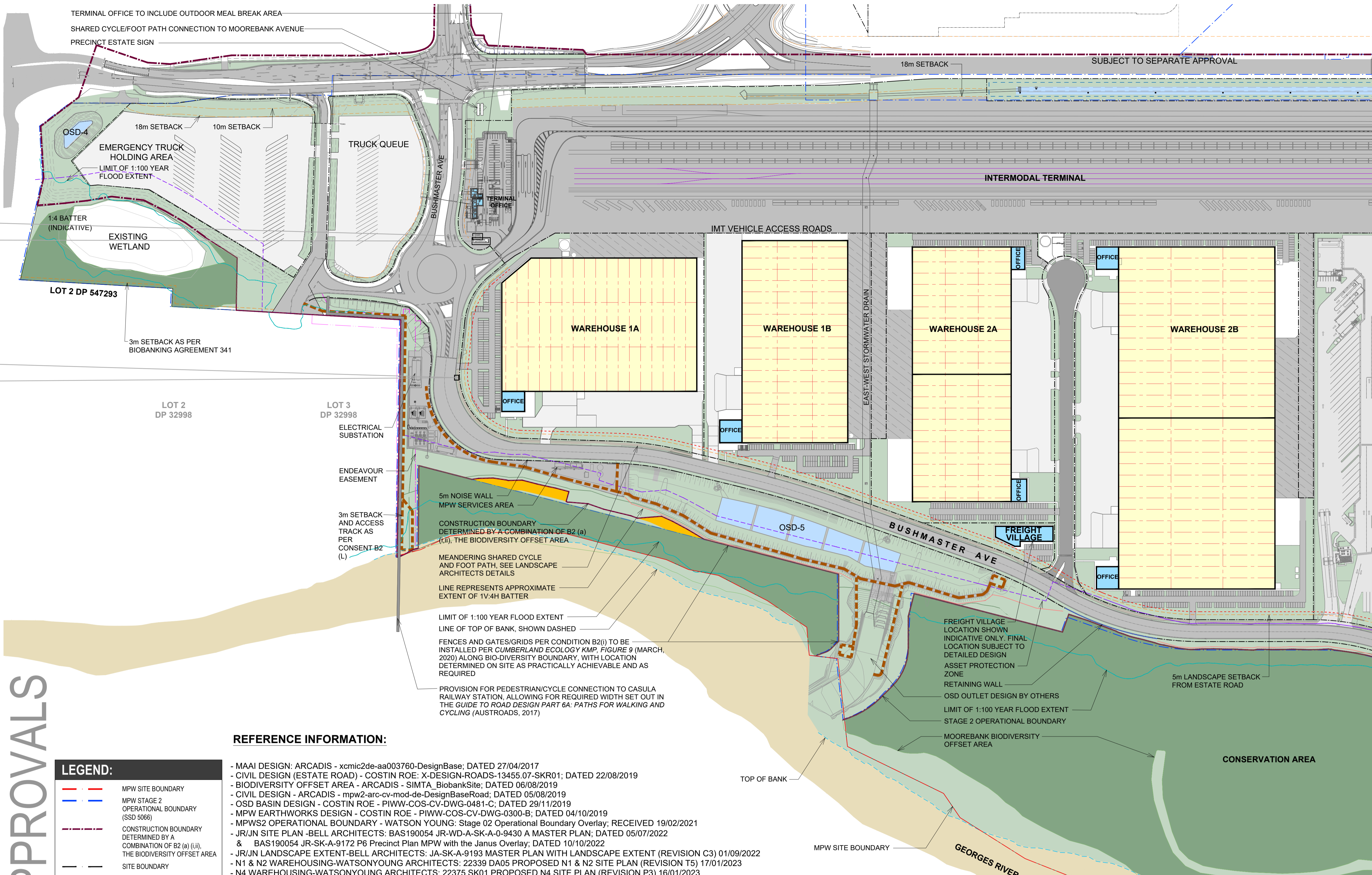
Table A-1 REMMs relevant to this Plan (Source: SSD 5066)

REMM	Requirement	Document Reference
6T	Appropriate design and landscape/vegetation management measures would be implemented to reduce the bushfire risk and threat to biodiversity.	Section 3.3.2
6U	The management of the conservation area along the Georges River would include management of fire regimes to promote biodiversity conservation.	No asset protection measures will be implemented within the Conservation Area. Section 3.2.1.4 of the Moorebank Precinct Biodiversity Management Implementation Plan addresses management of fire for conservation in the Conservation Area.
7L	The aims and objectives of 'Planning for Bush Fire Protection' (RFS 2006) would be further considered, and the Rural Fire Service (RFS) consulted, during detailed design.	Section 3.2
7M	A bush fire management plan (or equivalent) would be prepared for the Project site to develop the bush fire management measures in detail, in consultation with the RFS. The bush fire management plan (or equivalent) would detail the interaction between the Project footprint and biodiversity offset areas. In the event that no vegetation clearing is undertaken, the bush fire risk assessment and bush fire management plan (or equivalent) would be updated and appropriate mitigation measures provided in the design of the IMT.	This Plan Section 3.2.1 addresses the provision of the APZ and its relation to the conservation area. Section 1.4 details consultation undertaken with RFS during the development of this Plan.
7N	Internal roads would be designed to enable safe access for emergency services and to allow crews to work with equipment aboard the vehicle, including providing: <ul style="list-style-type: none"> • two-wheel drive, sealed all weather roads; • internal perimeter road to be at least two lanes wide (8m kerb to kerb); • a minimum vertical clearance of 4m; • curves with a minimum inner radius of 6m; and • roads with capacity to carry fully loaded fire-fighting vehicles (15 tonnes). 	Section 3.2.3
7O	Water supplies for fire-fighting would be easily accessible and located at regular intervals, including: <ul style="list-style-type: none"> • reticulated water supply using a ring main system for the perimeter road; • fire hydrant spacing, sizing and pressures complying with AS 2419.1–2005; • location of hydrants outside of any road carriageway; and • ensuring all aboveground water pipes external to buildings are metal, including any taps. 	Section 3.2.4
7P	Electricity services would be located to limit the possibility of ignition of surrounding bushland or the fabric of buildings, including: <ul style="list-style-type: none"> • where practicable, locating electrical transmission lines underground; 	Section 3.2.4

REMM	Requirement	Document Reference
	<ul style="list-style-type: none"> • where overhead electrical transmission lines are proposed, lines would be installed with short pole spacing (30m); and • no part of a tree would be closer to a power line than the distance set out in the specifications of Vegetation Safety Clearances issued by Energy Australia (NS179, April 2002). 	
7Q	<p>Gas services would be located to avoid ignition of surrounding bushland or the fabric of buildings, including:</p> <ul style="list-style-type: none"> • ensuring all aboveground gas service pipes external to buildings are metal (including connections); and • ensuring reticulated or bottled gas is installed and maintained in accordance with AS 1596 and the requirements of relevant authorities. 	Section 3.2.4
7R	<p>A fuel management plan (or equivalent) would be developed for the conservation zone and offset areas taking into consideration the ecological values of this area, including the presence of threatened species.</p>	Section 3.2.1.4 of the Moorebank Precinct Biodiversity Management Implementation Plan addresses management of fire for conservation in the Conservation Area.
7S	<p>A landscape management plan (or equivalent) would be developed for any landscaped gardens within the Project site.</p>	Section 3.3.1
7T	<p>A fire safety and evacuation plan (or equivalent) would be developed that would:</p> <ul style="list-style-type: none"> • include training requirements for staff on fire prevention and safety; • provide a fire escape plan (designated meeting points and escape routes), and require regular fire drills; • outline provision of a functional fire alarm system; • outline equipment use restrictions during fire bans; and • outline measures for arson prevention, including provision of adequate lighting and security to deter trespassers. 	Evacuation Plan addressed in the CERP
7U	<p>A more detailed bushfire risk assessment would be undertaken following finalisation of design and layout, in consultation with the NSW Rural Fire Service.</p>	<p>This BRMP Consultation addressed in Section 1.4.</p>

APPENDIX B PRECINCT MASTERPLAN

POST APPROVALS



DEVELOPMENT SCHEDULE	
SITE 1A	
WAREHOUSE AREA	47,553m ²
BUILDING AREA (GFA)	
WAREHOUSE	22,205m ²
OFFICE (2 LEVEL)	1,022m ²
SOFT LANDSCAPING	5,561m ²
HARD LANDSCAPING	2,240m ²
PROPOSED CAR PARKING	112 SPACES
PROPOSED BICYCLE PARKING	14 SPACES
SITE 1B	
WAREHOUSE AREA	41,457m ²
BUILDING AREA (GFA)	
WAREHOUSE	17,056m ²
OFFICE (2 LEVEL)	1,015m ²
SOFT LANDSCAPING	2,962m ²
HARD LANDSCAPING	1,301m ²
PROPOSED CAR PARKING	93 SPACES
PROPOSED BICYCLE PARKING	14 SPACES
SITE 2A	
WAREHOUSE AREA	49,270m ²
BUILDING AREA (GFA)	
WAREHOUSE TOTAL	25,440m ²
OFFICES (2 LEVEL) TOTAL	1,300m ²
SOFT LANDSCAPING	4,368m ²
HARD LANDSCAPING	1,775m ²
PROPOSED CAR PARKING	90 SPACES
PROPOSED BICYCLE PARKING	10 SPACES
SITE 2B	
WAREHOUSE AREA	87,471m ²
BUILDING AREA (GFA)	
WAREHOUSE TOTAL	45,270m ²
OFFICES (2 LEVEL) TOTAL	2,020m ²
SOFT LANDSCAPING	7,660m ²
HARD LANDSCAPING	3,304m ²
PROPOSED CAR PARKING	223 SPACES
PROPOSED BICYCLE PARKING	28 SPACES
SITE 3A (JR)	
WAREHOUSE AREA	149,031m ²
BUILDING AREA (GFA)	
WAREHOUSE	39,384m ²
SOFT LANDSCAPING	13,121m ²
HARD LANDSCAPING	911m ²
PROPOSED CAR PARKING	10 SPACES
PROPOSED BICYCLE PARKING	20 SPACES
SITE 3B (JN)	
WAREHOUSE AREA	115,064m ²
BUILDING AREA (GFA)	
WAREHOUSE	45,934m ²
SOFT LANDSCAPING	10,579m ²
HARD LANDSCAPING	5,761m ²
PROPOSED CAR PARKING	789 SPACES
PROPOSED BICYCLE PARKING	41 SPACES
FREIGHT VILLAGE	
SITE AREA	3,188m ²
BUILDING AREA (GFA)	800m ²
WAREHOUSE AREA SOFT LANDSCAPING	63,779m ²
WAREHOUSE AREA HARD LANDSCAPING	15,412m ²
OSD-5 LANDSCAPE AREA	17,075m ²
TOTAL LANDSCAPING PERCENTAGE	15.06%
SOFT LANDSCAPING	1,750m ²
HARD LANDSCAPING	250m ²
PROPOSED CAR PARKING	18 SPACES
PROPOSED BICYCLE PARKING	3 SPACES

REFERENCE INFORMATION:

- MAAI DESIGN: ARCADIS - xcmic2de-aa003760-DesignBase; DATED 27/04/2017
- CIVIL DESIGN (ESTATE ROAD) - COSTIN ROE - X-DESIGN-ROADS-13455.07-SKR01; DATED 22/08/2019
- BIODIVERSITY OFFSET AREA - ARCADIS - SIMTA_BiobankSite; DATED 06/08/2019
- CIVIL DESIGN - ARCADIS - mpw2-arc-cv-mod-de-DesignBaseRoad; DATED 05/08/2019
- OSD BASIN DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0481-C; DATED 29/11/2019
- MPW EARTHWORKS DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0300-B; DATED 04/10/2019
- MPWS2 OPERATIONAL BOUNDARY - WATSON YOUNG: Stage 02 Operational Boundary Overlay; RECEIVED 19/02/2021
- JR/JN SITE PLAN - BELL ARCHITECTS: BAS190054 JR-WD-A-SK-A-0-9430 A MASTER PLAN; DATED 05/07/2022
- & BAS190054 JR-SK-A-9172 P6 Precinct Plan MPW with the Janus Overlay; DATED 10/10/2022
- JR/JN LANDSCAPE EXTENT-BELL ARCHITECTS: JA-SK-A-9193 MASTER PLAN WITH LANDSCAPE EXTENT (REVISION C3) 01/09/2022
- N1 & N2 WAREHOUSING-WATSONYOUNG ARCHITECTS: 22339 DA05 PROPOSED N1 & N2 SITE PLAN (REVISION T5) 17/01/2023
- N4 WAREHOUSING-WATSONYOUNG ARCHITECTS: 22375 SK01 PROPOSED N4 SITE PLAN (REVISION P3) 16/01/2023
- N3 WAREHOUSING-WATSONYOUNG ARCHITECTS: 22339 SK02 MPW STAGE 2 LANDSCAPE AREA MP (REVISION P5) 23/01/2023
- CIVIL DESIGN (RETAINING WALLS) - COSTIN ROE : LPWPIW-COS-CV-DWG-0600-2 DATED 18/02/2021

DISCLAIMER:

ALL WAREHOUSE COMPONENTS INCLUDING SITE LANDSCAPING ARE SHOWN INDICATIVE ONLY PENDING CONFIRMATION OF DETAILED DESIGN. GFA & GLA AREAS TABLED IN DEVELOPMENT SUMMARY ARE APPROXIMATE ONLY.

LEGEND:

- MPW SITE BOUNDARY
- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- CONSTRUCTION BOUNDARY DETERMINED BY A COMBINATION OF B2 (a) (i), (ii), THE BIODIVERSITY OFFSET AREA
- SITE BOUNDARY
- RETAINING WALL
- APPROXIMATE EXTENT OF 1V:4H BATTER AS PART CONDITION B2(f)
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
- ASSET PROTECTION ZONE SETBACK
- RIPARIAN BUFFER ZONE
- ACCESS MAINTENANCE TRACKS AS PART CONDITION B2(g)

NOTES:
1. ALL LEVELS ARE INDICATIVE & SHOULD BE READ IN CONJUNCTION WITH CIVIL ENG. DWGS FOR FINAL LEVELS OF ALL EARTH WORKS
2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

1 MPW NORTH WAREHOUSING PLAN

SCALE: 1:2000

BUILDER TO CONFIRM ALL DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.
FIGURED DIMENSIONS TAKE PRECEDENCE. DO NOT SCALE FROM THE DRAWING.
ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS, SCHEDULES AND PROJECT ENGINEERS DRAWINGS.
THE MASTERPLAN ARCHITECTS IS TO BE CONSULTED REGARDING ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF ANY PART OF THE WORKS.
ALL WORK IS TO CONFORM TO RELEVANT CURRENT AUSTRALIAN STANDARDS AND ALL OTHER APPLICABLE CODES ALONG WITH ANY LOCAL AUTHORITIES REQUIREMENTS & REGULATIONS.

Issue	Description	Date	DR	CH	North
J	ISSUED BY REID CAMBELL	-	-	-	
K	ISSUED BY REID CAMBELL	-	-	-	
L	ISSUED BY REID CAMBELL	-	-	-	
M	ISSUED BY REID CAMBELL	-	-	-	
N	UPDATE FOR DPE RFI	04.03.2021			
O	Woodworks SSD 7709 Mod 01 updates and minor adjustment to AP2	11.09.2021			
P	Woodworks SSD 7709 PA 133	07.07.2022			
Q	UPDATED CONSTRUCTION BOUNDARY MAINTENANCE ACCESS TRACKS	14.06.2022			
R	MPW NORTH WAREHOUSING, RETAINING WALLS, DEVELOPMENT SCHEDULE	26.06.2023			
S	DPE RFI UPDATES	29.08.2023			

Notes
ALL AREAS & DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR

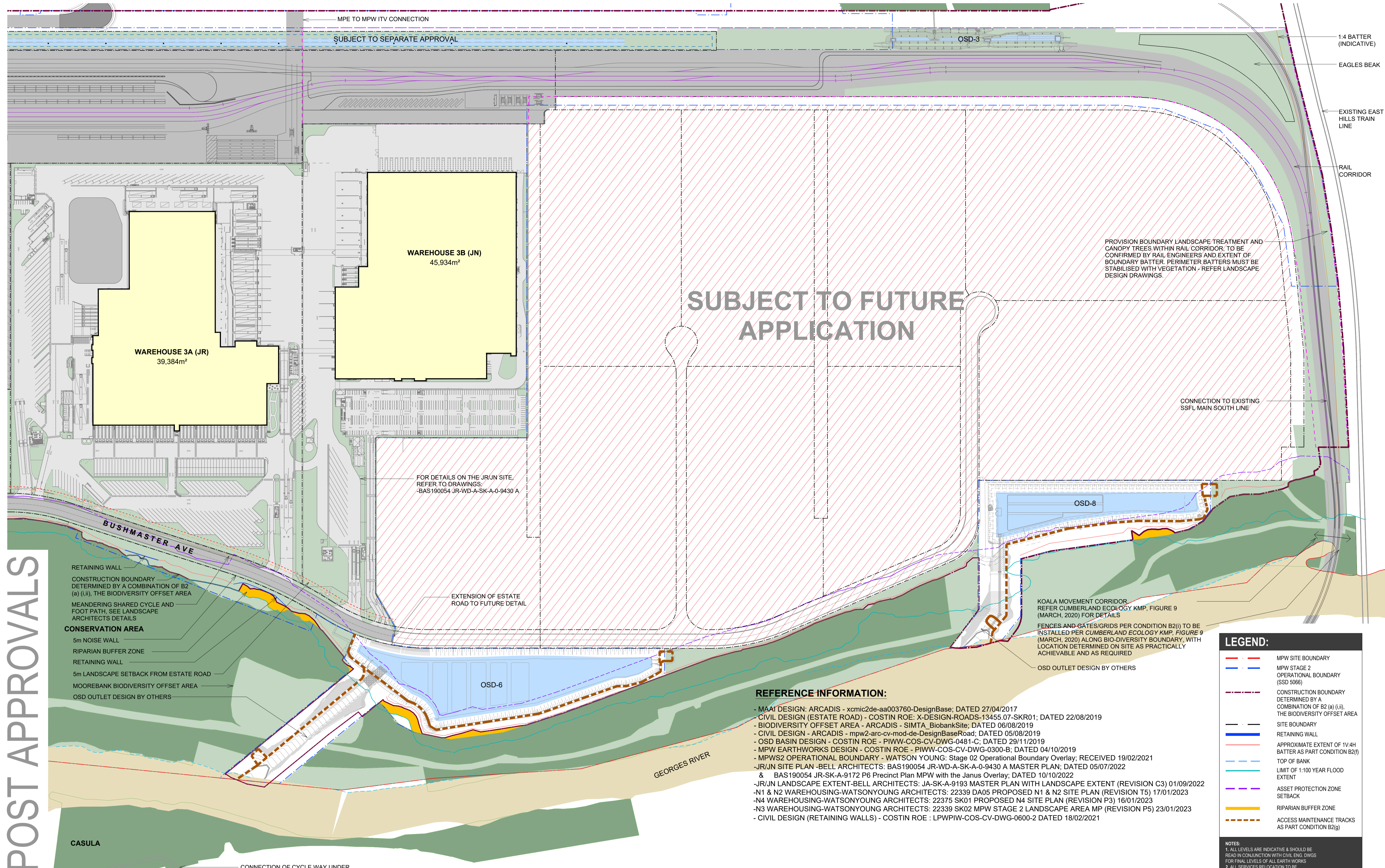
Project
MOOREBANK PRECINCT WEST - STAGE 2
Project Address
MOOREBANK AVENUE, MOOREBANK NSW



Drawing Title
POST APPROVALS - MPW MASTERPLAN - PART 1
Drawing Number
PIWW-RCG-AR-DWG-0100

Scale @ A1
1:2000
Issue
S

POST APPROVALS



REFERENCE INFORMATION:

- MAAI DESIGN: ARCADIS - xcmic2de-aa003760-DesignBase; DATED 27/04/2017
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- MPW EARTHWORKS DESIGN - COSTIN ROE - PIWW-COS-CV-DWG-0300-B; DATED 04/10/2019
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- JR/JN SITE PLAN - BELL ARCHITECTS: BAS190054 JR-WD-A-SK-A-0-9430 A MASTER PLAN; DATED 05/07/2022
- BAS190054 JR-SK-A-9172 P6 Precinct Plan MPW with the Janus Overlay; DATED 10/10/2022
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- N3 WAREHOUSING-WATSONYOUNG ARCHITECTS: 22339 SK02 MPW STAGE 2 LANDSCAPE AREA MP (REVISION P5) 23/01/2023
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LEGEND:

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- MPW STAGE 2 OPERATIONAL BOUNDARY (SSD 5066)
- CONSTRUCTION BOUNDARY DETERMINED BY A COMBINATION OF B2 (a) (i,ii), THE BIODIVERSITY OFFSET AREA
- SITE BOUNDARY
- RETAINING WALL
- APPROXIMATE EXTENT OF 1V:4H BATTER AS PART CONDITION B2(f)
- TOP OF BANK
- LIMIT OF 1:100 YEAR FLOOD EXTENT
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- ACCESS MAINTENANCE TRACKS AS PART CONDITION B2(g)

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 2. ALL SERVICES RELOCATION TO BE CONFIRMED BY ENG.

Issue	Description	Date	DR	CH	North
E	ISSUED BY REID CAMPELL	-	-	-	
F	ISSUED BY REID CAMPELL	-	-	-	
G	ISSUED BY REID CAMPELL	-	-	-	
H	ISSUED BY REID CAMPELL	-	-	-	
I	ISSUED BY REID CAMPELL	-	-	-	
J	ISSUED BY REID CAMPELL	-	-	-	
K	ISSUED BY REID CAMPELL	-	-	-	
L	UPDATE FOR REVIEW, NOT ISSUED	04.03.2021	-	-	
M	WOODWORKS SSD 7709 AND 51 UPDATES	17.08.2021	-	-	
N	WOODWORKS SSD 7709 PA 133	07.07.2022	-	-	
P	UPDATED CONSTRUCTION BOUNDARY, MAINTENANCE ACCESS TRACKS	14.06.2023	-	-	
Q	PIPE RFI UPDATES	26.06.2023	-	-	

Notes
 ALL AREAS & DIMENSIONS ARE APPROXIMATE AND ARE TO BE VERIFIED BY A REGISTERED LAND SURVEYOR

Project
MOOREBANK PRECINCT WEST - STAGE 2

Project Address
 MOOREBANK AVENUE, MOOREBANK NSW



Client
Moorebank Intermodal Precinct

Architect
watson young

Watson Young Architects Pty. Melbourne | Perth | Sydney | 03 9516 8555 ACN: 111398700
 8 Grant Street Prahran VIC 3181 info@watsonyoung.com.au watsonyoung.com.au
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Drawing Title
POST APPROVALS - MPW MASTERPLAN - PART 2

Drawn	Checked	Print Date	Scale @ A1
AG	JF	-	1:2000
Project Number	Issue		
19311	Q		
Drawing Number			
PIWW-RCG-AR-DWG-0101			

APPENDIX C WEED MANAGEMENT

Where exotic species have naturalised or planted specimens have escaped garden beds into the bushland, they should be treated in accordance with the following methods:

Table C-1 Weed Management

Weed Type	Treatment
Tall annual herbaceous weeds	<p>Tall herbaceous weeds are to be kept at low levels and treated prior to seeding where possible. Treatment of herbaceous weeds prior to seeding will aim to gradually reduce the Site's weed seed bank over the management period. Techniques considered appropriate in controlling herbaceous weeds onsite include (as required and appropriate):</p> <ul style="list-style-type: none"> • Spot spraying • Slashing • Hand removal
Woody weeds	<p>Primary and secondary woody weeds are to be treated by cut/scrape and painting with Neat Roundup Biactive®, accordingly.</p> <p>All woody weed biomass should be neatly piled and retained onsite as habitat. Large expanses of woody weeds should be evaluated for their habitat values prior to primary removal. Juvenile woody weeds are to be treated by hand removal or careful spot spraying with a Metsulfuron-methyl based herbicide where appropriate.</p>
Exotic grasses and monocots	<p>Exotic grasses are to be treated throughout the site, with areas of high resilience receiving first priority. A combination of hand removal, careful spot spraying and broad scale blanket spraying will be utilised.</p>
Exotic vines	<p>Exotic vines are to be maintained at low levels and skirted from all mid-storey and canopy species throughout the site, particularly the conservation zone. Techniques considered appropriate in controlling exotic vines weeds on site include (as required and appropriate):</p> <ul style="list-style-type: none"> • Hand weeding • Scrape and painting • Spot spraying

APPENDIX D EVIDENCE OF CONSULTATION

Notes

41-1

HV KIOSK

41-2

FUTURE STAGE SWITCHING STATION

41-3

LINTEL SIZE BASED ON BCC DRG A(BS)106M REV.D

41-4

LINTEL SIZE BASED ON BCC DRG A(BS)106M REV.D